

# Fossilium Catalogus

## II: Plantae.

Editus a

W. Jongmans.

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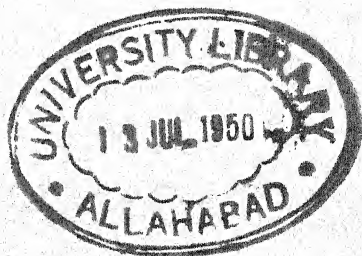
Pars 20:

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Anacardiaceae.



W. Junk  
's-Gravenhage  
1935.



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# Anacardiaceae.

## Introduction.

The family Anacardiaceae at the present day consists of about 60 genera with some 500 species, mainly tropical and sub-tropical in distribution, but extending into warm temperate regions. Over 200 fossil species have been described, mostly leaf-impressions referred to *Rhus*, but very many of these are of little value as records of the genus or even of the family. In cataloguing them here no attempt has been made to examine them all critically, and the absence of comment does not imply acceptance of the identification.

Engler (1881) reviewed and tabulated 70 fossil species which had been referred to the family, but only regarded four of them as being undoubtedly anacardiaceous. These were *Pistacia oligocenica*, *P. narbonensis* (both very similar to *P. lentiscus* Linn.), *P. miocenica* and *P. phaeacum*. In this catalogue, the remark "identification doubtful" may be assumed to apply to all the other species of which the Synonymy contains a reference to Engler's work of 1881. Engler considered that nearly all the leaf-impressions might equally well belong to the Rutaceae, Sapindaceae, Burseraceae, or Leguminosae. Confusion has also arisen with the Juglandaceae, and numerous other cases of doubtful identification will be mentioned in the following catalogue.

The cuticular structure of the fossil leaves does not seem to have been studied so far in this family, but where the material is favourably preserved anatomical details may in some cases settle the family relationship.

A few petrified woods have been described as *Anacardiowylon* or *Rhoidium*, pollen has been described as *Rhoipites*, and a number of fruits have been recorded. Some of the latter, especially those preserved only as impressions, are however doubtful. (See particularly the remarks on *Trilobium*). In spite of considerable uncertainty in individual cases, it is nevertheless clear that the Anacardiaceae were well represented in fossil floras at least as far back as the Eocene. In their work on the well-preserved London Clay fruits, Reid & Chandler (1933) describe no fewer than eleven species all referable to the section Spondieae, belonging to six different genera, of which three are still living (*Dracontomelon*, *Spondias*, *Ocotea*). The three extinct genera (*Pseudosclerocarya*, *Spondicarya*, *Xylocarya*) combine characters which are now found in different living genera.

The general arrangement and the bibliographical references follow the style adopted for the Sapindaceae (Foss. Cat. pars 14, p. 3). Synonyms, nomina nuda, misidentifications, rejected names, and the like are enclosed in square brackets.

There are numerous cases in which a name given to a fossil had already been used for a recent plant, or the reverse. Several such homonyms have been dealt with by Knowlton & Cockerell, who have either transferred the fossil to another species (often to another

genus) or re-named it. In some cases the later name is a *nomen nudum*, and in others we do not consider it advisable to re-name fossil leaves which have not been re-examined, and have therefore merely drawn attention to these discrepancies. For details see the following in the catalogue:

Names of recent species pre-occupied by fossils: *Rhus ambigua*,  
*R. coriacea*, *R. nitida*.

Names of fossils pre-occupied by recent species: *Pistacia acuminata*,  
*P. narbonensis*, *Rhus acuminatus*, *R. affinis*, *R. angustifolia*,  
*R. elegans*, *R. incisa*, *R. longifolia*, *R. microphylla*, *R. nervosa*,  
*R. obliqua*, *R. obovata*, *R. quercifolia*, *R. rosaeifolia*, *R. salicifolia*, *R. triphylla*.

Names of fossils pre-occupied by other fossil species: *Rhus atavia*,  
*R. cretacea*.

British Museum (Nat. Hist.)

Geological Department, July, 1934.

W. N. Edwards.

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### **Anacardiaceae ?**

1915 **Anacardiaceae** ? (Fruits) Reid, C. & E. M., p. 109, pl. X, figs. 23—26.

Remarks: Drupaceous fruits, probably belonging to *Teschia crassicarpa* according to the authors.

Occurrence: Middle Pliocene; Holland (Reuver, Swalmen).

### **Anacardiaceae ? Genus ?**

1933 **Anacardiaceae** ? Genus ? Reid & Chandler, p. 316, pl. XIV, figs. 21, 22.

Remarks: Fruit, doubtfully referred to the Anacardiaceae.

Occurrence: Eocene (London Clay); England (Herne Bay).

### **Anacardiaceae (Spondieae) Genus ?**

1933 **Anacardiaceae (Spondieae)** Genus ? Reid & Chandler, p. 313, pl. XIV, figs. 13—15.

Remarks: „The fruit belongs to the section Spondieae of the family Anacardiaceae“.

Occurrence: Eocene (London Clay); England (Sheppey).

[**Anacardiophyllum** Ettingshausen, 1870, p. 90.]

Synonym of **Anacardites** Saporta, q. v.

[**Anacardiophyllum parvifolium** Krasser.]

1903 **Anacardiophyllum parvifolium** Krasser, p. 858.

Remarks: MS. name of Ettingshausen. Nomen nudum.

Occurrence: Tertiary; Brazil (Ouricanga).

[**Anacardiophyllum rotundifolium** Krasser.]

1903 **Anacardiophyllum rotundifolium** Krasser, p. 858.

Remarks: MS. name of Ettingshausen. Nomen nudum.

Occurrence: Tertiary; Brazil (Ouricanga).

**Anacardioxylon** Felix, 1882, p. 70.

**Anacardioxylon magniporosum** Platen.

1908 **Anacardioxylon magniporosum** Platen, p. 57.

Occurrence: Tertiary; California.

[*Anacardioxylon mollii* Kräusel.]

Synonym of *Sumatroxylon mollii* (Kräusel), see Foss. Cat., pars 17, p. 76.

*Anacardioxylon spondiaeforme* Felix.

1882 *Anacardioxylon spondiaeforme* Felix, p. 70.

1883 *Anacardioxylon spondiaeforme* Felix: Felix, p. 16, pl. II, figs. 7, 9.

1890 *Anacardioxylon spondiaeforme* Felix: Kaiser, p. 25.

1924 *Anacardioxylon spondiaeforme* Felix: Hollick, p. 265.

Remarks: Similar to *Spondias lutea*. Originals in Munich.

Occurrence: Tertiary; Antigua.

*Anacardioxylon uniradiatum* Felix.

1894 *Anacardioxylon uniradiatum* Felix, p. 92, pl. VIII, figs. 1 a—e.

Remarks: Compared with *Spondias lutea*, but also with some Simarubaceae.

Occurrence: Eocene (Sumgait series); Caucasus (Apscheron).

*Anacardites* Saporta, 1861, p. 149.[*Anacardites alnifolius* Saporta.]

1862a *Anacardites alnifolius* Saporta, p. 201, pl. II, fig. 1.

1927 *Psidium alnifolium* (Sap.) Fritel, p. 409.

Remarks: Transferred by Fritel to the Myrtaceous genus *Psidium*.

Occurrence: Tertiary; S.E. France.

*Anacardites americanus* Berry.

1925 *Anacardites americanus* Berry, p. 104, pl. I, fig. 3.

Occurrence: Tertiary (Forest Sand); Trinidad.

*Anacardites amissus* Heer.

1882 *Anacardites amissus* Heer, p. 99, pl. XL, fig. 8.

1889 *Anacardites amissus* Heer: Velenovsky, p. 61.

1913 *Anacardites amissus* Heer: Stopes, p. 55.

Remarks: Compared by Heer with *Rhus quercifolia* Goepfert.

Occurrence: Cretaceous (Atane Beds); Greenland.

*Anacardites anaphrenium* Saporta.

1865a *Anacardites anaphrenium* Saporta, p. 209, pl. XIII, fig. 7.

1874 *Anacardites Anaphrenium* Sap.: Schimper, p. 281.

1881 *Anacardites Anaphrenium* Sap.: Engler, p. 416.

1930 *Anacardites anaphrenium* Sap.: Calmet, p. 189.

Occurrence: Oligocene; S. France (Armissan).

**Anacardites andegavensis** Crié.

1885 **Anacardites andegavensis** Crié, p. 409.

Occurrence: Eocene; France, Maine-et-Loire (Cheffes).

**Anacardites antiquus** Lesquereux.

1892 **Anacardites antiquus** Lesquereux, p. 156, pl. LVII, fig. 1.

1913 **Anacardites antiquus** Lesq.: Stopes, p. 55.

Occurrence: Cretaceous; U.S.A. (Kansas).

**Anacardites balli** Berry.

1924b **Anacardites balli** Berry, p. 177, pl. LXII, fig. 7.

1931 **Anacardites balli** Berry: Ball, p. 160, pl. XXXII, fig. 9.

Occurrence: Upper Eocene; U.S.A. (Texas).

**Anacardites bifurcus** (Watelet).

1866 **Quercus bifurca** Watelet, p. 138, pl. XXXV, fig. 9.

1924 **Anacardites bifurcus** (Watelet) Fritel, p. 156.

Occurrence: Eocene; France (Paris Basin).

**Anacardites braziliensis** Hollick & Berry.

1924 **Anacardites braziliensis** Hollick & Berry, p. 76, pl. V, fig. 8.

Occurrence: Tertiary; Brazil.

[**Anacardites cenomanensis** Crié.]

See **Anacardites fyeensis** Crié.

**Anacardites curta** (Watelet).

1866 **Banksia curta** Watelet, p. 195, pl. LII, fig. 13.

1866 ?**Banksia lobata** Watelet, p. 196, pl. LII, fig. 14.

1883 **Anacardites curta** (Watelet) Friedrich, p. 148, pl. XIX, figs. 8—10.

1888 **Anacardites curta** (Wat.): Schenk, p. 539, fig. 309<sup>5</sup>.

Remarks: Watelet's two fragments are worthless and unidentifiable, and we cannot see the slightest reason either for identifying the Bornstedt leaves with them, or for including the latter in the Anacardiaceae.

Occurrence: Eocene; France (Belleu). Oligocene; Saxony (Bornstedt).

**Anacardites dubius** (Ettingshausen).

1870 **Anacardiophyllum dubium** Ettingshausen, p. 90.

1874 **Anacardites dubius** (Ett.) Schimper, p. 281.

1881 **Anacardites dubius** (Ett.): Engler, p. 416.

1888 **Anacardiophyllum dubium** Ett.: Ettingshausen, p. 356.

Occurrence: Miocene; Styria (Leoben).

**Anacardites eocenicus** Berry.

1930 **Anacardites eocenicus** Berry, p. 96, pl. XIV, fig. 18.

Occurrence: Lower Eocene (Wilcox); U.S.A., Tennessee (Hardeman Co.), Arkansas (Nevada Co.).

**Anacardites falcatus** Berry.

1916 **Anacardites falcatus** Berry, p. 261, pl. LIX, fig. 6.

Occurrence: Lower Eocene; U.S.A. (Tennessee).

**Anacardites fyeensis** Crié.

1878 **Anacardites fyeensis** Crié, p. 58, pl. O [XV], figs. 126—27.

Remarks: The name *A. cenomanensis* on the plate legend is evidently a misprint.

Occurrence: Eocene; W. France (Fye, Sarthe).

**Anacardites grevilleaefolia** Berry.

1916 **Anacardites grevilleaefolia** Berry, p. 262, pl. LVII, fig. 5; pl. LVIII, fig. 5.

1922c **Anacardites grevilleaefolia** Berry: Berry, p. 4.

1923 **Anacardites grevilleaefolia** Berry: Trowbridge, p. 92.

1931 **Anacardites grevilleaefolia** Berry: Ball, p. 84.

Occurrence: Lower Eocene; U.S.A. (Texas).

**Anacardites inequilateralis** Berry.

1930 **Anacardites inequilateralis** Berry, p. 96, pl. XXIX, fig. 7.

Occurrence: Lower Eocene; U.S.A., Tennessee (Fayette Co.).

**Anacardites juglandoideus** (Watelet).

1866 **Chrysophyllum juglandoideum** Watelet, p. 205, pl. LIV, fig. 1.

1924 **Anacardites juglandoideus** (Watelet) Fritel, p. 156, fig. 4.

Occurrence: Eocene; France (Paris Basin).

**Anacardites lanceolatus** Berry.

1923 **Anacardites lanceolatus** Berry, p. 10, pl. VI, figs. 1, 2.

Occurrence: Miocene; S. Mexico (Oaxaca).

**Anacardites marshallensis** Berry.

1916 **Anacardites marshallensis** Berry, p. 261, pl. LVIII, fig. 6.

Occurrence: Lower Eocene; U.S.A. (Mississippi).

**Anacardites metopifolia** Berry.

1916 **Anacardites metopifolia** Berry, p. 262, pl. LVIII, fig. 7.

Occurrence: Lower Eocene; U.S.A. (Mississippi, Kentucky, Tennessee).

**Anacardites minor Berry.**

- 1916 *Anacardites minor* Berry, p. 262, pl. LVII, fig. 4.  
Occurrence: Lower Eocene; U.S.A. (Tennessee).

**Anacardites patagonicus Berry.**

- 1928 *Anacardites* (?) *patagonicus* Berry, p. 19, pl. V, fig. 1.  
Occurrence: Tertiary; Argentine.

**Anacardites puryearensis Berry.**

- 1916 *Anacardites puryearensis* Berry, p. 261, pl. LVII, fig. 6.  
1922a *Anacardites puryearensis* Berry: Berry, p. 2.  
Occurrence: Lower Eocene; U.S.A. (Tennessee).

**Anacardites schinoloxus Brown.**

- 1929 *Anacardites schinoloxus* Brown, p. 288, pl. LXXIII, fig. 8.  
Occurrence: Middle Eocene; U.S.A. (Colorado).

**Anacardites schinus Brown.**

- 1934 *Anacardites schinus* Brown, p. 60, pl. XV, fig. 19.  
Occurrence: Eocene (Green River); U.S.A. (Colorado).

**Anacardites serratus Berry.**

- 1916 *Anacardites serratus* Berry, p. 263, pl. LVIII, fig. 8.  
Occurrence: Lower Eocene; U.S.A. (Tennessee).

**Anacardites spectabilis Saporta.**

- 1861 *Anacardites spectabilis* Saporta, p. 149.  
1862a *Anacardites spectabilis* Sap.: Saporta, p. 281, pl. XIII, fig. 5.  
1873 *Anacardites spectabilis* Sap.: Saporta, p. 112.  
1874 *Anacardites spectabilis* Sap.: Schimper, p. 281.  
1881 *Anacardites spectabilis* Sap.: Engler, p. 416.  
Occurrence: Oligocene; S. France (Aix-en-Provence).

**Anacardites spondiaefolius Saporta.**

- 1862a *Anacardites spondiaefolius* Saporta, p. 282.  
1873 *Anacardites spondiaefolius* Sap.: Saporta, p. 112, pl. XVI, figs. 17, 18.  
1874 *Anacardites spondiaefolius* Sap.: Schimper, p. 281.  
1881 *Anacardites spondiaefolius* Sap.: Engler, p. 416.  
1888 *Anacardites spondiaefolius* Sap.: Schenk, p. 539, fig. 309<sup>a</sup>.  
Remarks: Compared by Saporta with *Spondias lutea*. Engler and Schenk both doubt the comparison.  
Occurrence: Oligocene; S. France (Aix-en-Provence).

**Anacardites spondiaeformis Berry.**

- 1925 *Anacardites spondiaeformis* Berry, p. 105, pl. XV, fig. 4.  
Occurrence: Tertiary (Forest Sand); Trinidad.

[*Anacardites tenuis* Saporta.]

Synonym of *Phyllites tenuis* Saporta, q. v.

*Anacardites* sp.

1931 *Anacardiophyllum* sp.: Kirchheimer, p. 116.

Remarks: Kirchheimer considers the reference to *Anacardiaceae* probable, and also includes under this name certain leaves said to have been named by Engelhardt *Rhus cassiaeformis* Ett.

Occurrence: Tertiary; Germany (Lauterbach).

*Anacardium* Linnaeus.*Anacardium eocenicum* Berry.

1924 *Anacardium eocenicum* Berry, p. 261, pl. XVIII, figs. 1, 2.

Occurrence: Middle Eocene; Colombia (Bolívar).

*Anacardium kirnii* Berry.

1929 *Anacardium kirnii* Berry, p. 37, figs. 1, 2.

Occurrence: Lower Eocene; U.S.A., Texas (Atascosa Co.).

*Anacardium peruvianum* Berry.

1924a *Anacardium peruvianum* Berry, p. 124, figs. 1—8.

1927 *Anacardium peruvianum* Berry: Berry, p. 127, pl. XX, figs. 1—7.

1929 *Anacardium peruvianum* Berry: Berry, p. 38.

1929c *Anacardium peruvianum* Berry: Berry, p. 301, fig. 3.

1929d *Anacardium peruvianum* Berry: Berry, p. 159, pl. II, figs. 1—16.

Occurrence: Eocene; S. America (Peru, Ecuador, Colombia).

*Anaphrenium* E. Mey.*Anaphrenium europaeum* Engelhardt.

1922 *Anaphrenium europaeum* Engelhardt, p. 105, pl. XXXVII, fig. 5.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

*Anaphrenium lanceolatum* Engelhardt.

1922 *Anaphrenium lanceolatum* Engelhardt, p. 105, pl. XXXVII, fig. 6.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

*Astronium* Jacq.*Astronium oregonum* Chaney & Sanborn.

1933 *Astronium oregonum* Chaney & Sanborn, p. 80, pl. XXXI, figs. 2, 4.

Occurrence: Eocene; U.S.A. (Oregon).

## Buchanania Spreng.

### Buchanania sp.

1924 *Buchanania* n. sp.? Reid, p. 333, pl. X, fig. 25.

1924 *Buchanania* sp.? Reid, p. 334, pl. X, figs. 26, 27.

Remarks: Endocarps doubtfully referred to this genus.

Occurrence: Lower Pliocene; France, Cantal (Pont-de-Gail).

## Carpolithus Linnaeus.

### Carpolithus anacardiaceus Engelhardt.

1922 *Carpolithes anacardiaceus* Engelhardt, p. 120, pl. XL, fig. 28.

Remarks: A dubious reference to the family Anacardiaceae.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

### Carpolithus hafniensis Hartz.

1909 *Carpolithes hafniensis* Hartz, pp. 122, 278, pl. V, figs. 6a—c.

Remarks: Reid & Chandler (1933, p. 299) suggest a relationship with *Sclerocarya*, unless the fruit is indeed one-loculed.

Occurrence: Tertiary (Amber-pine beds); Denmark.

### Carpolithus terebinthinoides Menzel.

1913 *Carpolithes terebinthinoides* Menzel, p. 71, pl. VI, fig. 11.

Remarks: Fruit compared with that of *Pistacia terebinthus*.

Occurrence: Pliocene (?); Germany (Herzogenrath, nr. Aachen).

### Carpolithus sp.

1930 *Carpolithus* sp. 3: Reid, E. M., p. 58, pl. III, figs. 1—3.

Remarks: Very doubtfully compared with *Buchanania* from Pont-de-Gail (q. v.).

Occurrence: Eocene; France (Finistère, St. Tudy).

## Colombicarpum Reid, 1933, p. 212.

### Colombicarpum biloculare Reid.

1933 *Colombicarpum biloculare* Reid, p. 212, pl. XIV, figs. 10—13.

Remarks: Endocarps belonging to the Anacardiaceae, and perhaps nearest to *Tapirira*.

Occurrence: Tertiary; S. America (Colombia).

## Comocladia P. Br.

### [*Comocladia coelebogynoides* Massalongo.]

1859 *Comocladia coelebogynoides* Massalongo, p. 104.

1893 *Comocladia coelebogynoides* Meschinelli & Squinabol, p. 347.

Remarks: Nomen nudum.

Occurrence: Oligocene; Italy (Chiavon).

**Cotinus** Linnaeus.

(See also *Rhus antilopum*, *R. orbiculata*, *R. palaeocotinus*, and *R. palaeophylla*.)

**Cotinus coggygria** Scop.

- 1803 *Rhus* (cf. *R. cotinus*): Faujas-St.-Fond, p. 344, pl. LVI, fig. 2.  
 1845 *Rhus* sp. Faujas: Unger, p. 242.  
 1850 *Rhus* sp. Faujas: Unger, p. 475.  
 1864 *Rhus cotinus* Linn.: Saporta, p. 498.  
 1867a *Rhus cotinus* Linn.: Saporta, p. 280.  
 1906 *Cotinus coggygria* Scop.: Pax, p. 301.  
 1911 *Rhus cotinus* Linn.: Krasnov, p. 251, 1 fig.  
 1928 *Cotinus coggygria* Scop.: Nemejc, p. 199, pl. fig. 1.  
 1929 *Cotinus coggygria* Scop.: Stojanoff & Stefanoff, p. 79, pl. XI, fig. 11; text-fig. 21, figs. 3, 4.  
 Occurrence: Tertiary and Quaternary; Bulgaria, Slovakia, France (Provence, Ardèche), Russia (Piattegor'sk).

**Cotinus cretacea** Hollick.

- 1930 *Cotinus cretacea* Hollick, p. 98, pl. LXXV, fig. 4.  
 Occurrence: Upper Cretaceous; U.S.A., Alaska (Yukon River).

**Cotinus fraterna** (Lesquereux).

- 1883 *Rhus fraterna* Lesquereux, p. 192, pl. XLI, figs. 1, 2.  
 1883 *Andromeda rhomboidalis* Lesquereux, p. 176.  
 1906 *Cotinus fraterna* (Lesq.): Cockerell, p. 12.  
 1908 *Cotinus fraterna* (Lesq.): Cockerell, p. 99.  
 1908 *Andromeda scudderiana* Cockerell, p. 105.  
 1916 *Cotinus fraterna* (Lesq.): Knowlton, p. 279, pl. XXIV, fig. 1.  
 1919 *Cotinus fraterna* (Lesq.): Knowlton, p. 198.  
 Occurrence: Miocene; U.S.A., Colorado (Florissant).

**Cupanites** Schimper.

Schenk (1888, p. 548) remarks on the resemblance to *Anacardiaceae* of some of the leaves referred to this genus. See Foss. Cat. pars 14, p. 24.

**Dracontomelon** Blume.**Dracontomelon subglobosum** Reid & Chandler.

- 1933 *Dracontomelon subglobosum* Reid & Chandler, p. 299, pl. XIII, figs. 10—19; text-fig. 6.  
 Remarks: Fruit.  
 Occurrence: Eocene (London Clay); England (Sheppey).

**Dracontomelon minimum** Reid & Chandler.

- 1933 *Dracontomelon minimum* Reid & Chandler, p. 302, pl. XIII, figs. 20—24.  
 Remarks: Fruit.  
 Occurrence: Eocene (London Clay); England (Sheppey).

[**Heterocalyx** Saporta, 1873.]Synonym of **Trilobium** Saporta, q. v.[**Heterocalyx saportana** Berry.]1916 **Heterocalyx saportana** Berry, p. 260, pl. LIX, fig. 1.1930 **Heterocalyx saportana** Berry: Berry, p. 96, pl. XIV, figs. 13—16.

Remarks: Small calyces or fruits which do not appear to have anything to do with Saporta's *Heterocalyx* (= *Trilobium*) *ungeri*, and which there is no strong reason for referring to the Anacardiaceae.

Occurrence: Lower Eocene; U.S.A. (Mississippi, Tennessee).

[**Heterocalyx ungeri** Saporta.]See **Trilobium ungeri** Saporta.[**Leguminosites** Bowerbank.][**Leguminosites copelandi** Heer.]1883 **Leguminosites Copelandi** Heer, p. 139, pl. XCII, fig. 13.

Remarks: Compared with *Cassia phaseolites* and *Rhus* as well as Leguminosae.

Occurrence: Tertiary; Greenland.

**Lobaticarpum** Reid & Chandler, 1933, p. 314.**Lobaticarpum variabile** Reid & Chandler.1933 **Lobaticarpum variabile** Reid & Chandler, p. 314, pl. XIV, figs. 16—20; text-fig. 7.

Remarks: Fruits doubtfully referred to Anacardiaceae.

Occurrence: Eocene (London Clay); England (Sheppey).

**Mangifera** Linnaeus.[**Mangifera cf. indica** Linnaeus.]1932 **Mangifera cf. indica** Linn.: Hofmann, p. 70.

Remarks: Record without figure or description.

Occurrence: Eocene; Germany (Geiseltal).

**Mangifera tertiaria** Engelhardt.1922 **Mangifera tertiaria** Engelhardt, p. 106, pl. XXXVI, fig. 5.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

**Metopium** P. Br.**Metopium wilcoxianum** Berry.

- 1916 *Metopium wilcoxianum* Berry, p. 260, pl. LVII, figs. 2, 3;  
CXI, fig. 5.  
1931 *Metopium wilcoxianum* Berry: Ball, p. 89.  
Occurrence: Lower Eocene; U.S.A. (Mississippi, Tennessee,  
Texas).

[**Metopium yeguanum** „Berry“.]

- 1931 *Metopium yeguanum* „Berry“: Ball, pp. 124, 160, p. XXI, fig. 1.  
Remarks: Nomen nudum. No diagnosis nor description.  
Occurrence: Eocene; U.S.A. (Texas).

**Odina** Roxb.**Odina europaea** Reid & Chandler.

- 1933 *Odina europaea* Reid & Chandler, p. 309, pl. XIV, figs. 1—4.  
Remarks: Endocarp.  
Occurrence: Eocene (London Clay); England (Sheppey).

**Odina jenkinsi** Reid & Chandler.

- 1933 *Odina jenkinsi* Reid & Chandler, p. 308, pl. XIII, figs. 37—40.  
Remarks: Endocarp.  
Occurrence: Eocene (London Clay); England (Sheppey, Herne  
Bay).

**Odina (?) subreniformis** Reid & Chandler.

- 1933 *Odina (?) subreniformis* Reid & Chandler, p. 310, pl. XIV, figs.  
5—8.  
Remarks: Endocarp.  
Occurrence: Eocene (London Clay); England (Sheppey).

**Phyllites** Brongniart.[**Phyllites cotinus** Lesquereux.]

- 1876 *Phyllites cotinus* Lesquereux, p. 364.  
Remarks: Synonym of *Liriodendron marcouanum* (Heer)  
Knowlton (1919, p. 360), which was compared by Lesquereux with  
*Rhus*.

**Phyllites dichotomus** Laurent.

- 1899 *Phyllites dichotomus* Laurent, p. 145, pl. XIV, fig. 30.  
Remarks: Doubtfully referred to the genus *Rhus*.  
Occurrence: Oligocene; France (Célas).

**Phyllites lobulata** Bunbury.1858 **Phyllites lobulata** Bunbury, p. 56.Remarks: A doubtful reference to *Anacardiaceae*.

Occurrence: Tertiary; Madeira.

**Phyllites rhoifolius** Lesquereux.1868 **Phyllites rhoifolius** Lesquereux, p. 101.1874a **Phyllites rhoifolius** Lesq.: Lesquereux, p. 111, pl. XXII, figs. 5, 6.1883 **Phyllites rhoifolius** Lesq.: Lesquereux, p. 86.Remarks: Nervation compared with *Rhus* spp. Two fragments of leaves only.

Occurrence: Cretaceous; U.S.A. (Nebraska).

**Phyllites tenuis** Saporta.1862 **Phyllites tenuis** Saporta, p. 202.1865 **Anacardites? tenuis** (Sap.) Saporta, p. 42.1927 **Phyllites tenuis** Sap.: Fritel, p. 409.

Occurrence: Eocene; S.E. France.

**Phyllites (Rhus?) Ziegleri** Heer.1855 **Phyllites (Rhus?) Ziegleri** Heer, p. 33, pl. II, figs. 29—32.

Occurrence: Tertiary; Madeira (St. Jorge).

**Phyllites** sp.1883 **Phyllites** sp.: Nathorst, p. 81, pl. XVI, fig. 10.Remarks: A doubtful fragment very doubtfully compared with *Rhus semialata*.

Occurrence: Tertiary; Japan (Takasima).

**Phyllites** sp.1888 **Phyllites** sp.: Nathorst, p. 219, pl. XIX, fig. 6.Remarks: Doubtfully referred to *Rhus*.

Occurrence: Miocene; Japan (Iyo, Sikoku).

**Phyllites** sp.1928 **Phyllites** sp. (cf. *Schinopsis*) Berry, p. 25, pl. III, figs. 10—12.Remarks: Compared with *Schinopsis*, but a relationship with Sapindaceae is also suggested.

Occurrence: Tertiary; Argentina.

**Pistacia** L.**Pistacia acuminata** Reid, C. & E. M.

[Non *P. acuminata* Boiss. & Buhse, 1860, Nouv. Mém. Soc. Nat.  
Mosc., XII, p. 53 (= *P. khanguk*)]

- 1915 *Pistacia acuminata* Reid, C. & E. M., p. 108, pl. X, figs. 19, 20.  
Occurrence: Middle Pliocene; Holland (Reuver, Swalmen).

### *Pistacia aquehongensis* Hollick.

- 1898 *Pistacia aquehongensis* Hollick, p. 421, pl. XXXVI, fig. 5.  
1906 *Pistacia aquehongensis* Hollick: Hollick, p. 87, pl. XXXIII, fig. 3.  
Occurrence: Cretaceous; U.S.A. (Staten Island, Tottenville).

### [*Pistacia aquensis* Saporta.]

Synonym of *P. myrtifolia* (Saporta), q. v.

### *Pistacia bohémica* Ettingshausen.

- 1869 *Pistacia bohémica* Ettingshausen, p. 49, pl. I, fig. 25.  
1874 *Pistacia bohémica* Ett.: Schimper, p. 268.  
1881 *Pistacia bohémica* Ett.: Engler, p. 418.  
1910 *Pistacia bohémica* Ett.: Brabenc, p. 238, text-fig. 150 e.  
Occurrence: Oligocene; Bohemia (Bilin Basin).

### [*Pistacia britannica* Ettingshausen.]

- 1880 *Pistacia britannica* „Ett. & Gardner“: Ettingshausen, p. 235.  
Remarks: Nomen nudum.  
Occurrence: Eocene; England (Alum Bay).

### *Pistacia eriensis* Knowlton.

- 1919 *Pistacia eriensis* Knowlton, p. 460 (nomen nudum).  
1922 *Pistacia eriensis* Knowlton, p. 150, pl. XXVIII, figs. 1—4.  
Occurrence: Cretaceous; U.S.A. (Colorado, Denver Basin).

### *Pistacia fontanesia* (Unger).

- 1850 *Elaioides fontanesia* Unger, p. 125, pl. XIV, fig. 12.  
1850a *Elaioides fontanesia* Unger: Unger, p. 432.  
1855 *Pistacia Fontanesia* (Unger) Andrae, p. 25, pl. II, fig. 14.  
1874 *Pistacia Fontanesia* (Unger): Schimper, p. 268.  
1881 *Pistacia Fontanesia* (Unger): Engler, p. 416.  
Occurrence: Tertiary; Galicia and Transylvania.

### *Pistacia gervaisi* (Saporta).

- 1855 ?*Artemisia* sp.: Wessel & Weber, p. 165, pl. XXX, fig. 3.  
1860 ?*Carpinus salzhausensis* Ludwig, p. 100, pl. XXXIII, fig. 8.  
1863 ?*Smilax* or *Dianella*: Gervais, p. 316, pl. XI, fig. 1.  
1865a *Carpolithes gervaisi* Saporta, p. 239, pl. XI, fig. 11.  
1869a *Carpolithes gervaisi* Sap.: Heer, p. 50, pl. XII, fig. 9.  
1874 *Pistacia Gervaisii* (Sap.) Schimper, p. 269.  
1881 *Pistacia Gervaisii* (Sap.): Engler, p. 416.  
1887 *Carpolithes gervaisii* Sap.: Boulay, p. 274.  
1888 *Rhus atavia* Saporta (non Schenk), p. 300, fig. 41.  
1888 *Pistacia Gervaisii* (Sap.): Schenk, p. 539, fig. 309.  
1889 *Rhus gervaisii* (Sap.) Schenk, p. 838.  
1926 *Pistacia gervaisii* (Sap.): Wilckens, p. 38.

Remarks: The Armissan fruit first described by Gervais was referred to *Pistacia* by Saporta (in Schimper, 1874). Engler thought further proof was required. Marion apparently considered it to be a *Rhus*, allied to the living *R. sylvestris* Sieb. & Zucc. and *R. succedanea* L. of Japan, and Saporta, while accepting this (1888) incorrectly re-named the plant *R. atavia*. Schenk (1889) corrected the name to *R. gervaisii*, but considered that a reference to *Pistacia* was not entirely excluded.

Heer (1869a) included in this species fruits described by Wessel & Weber as *Artemisia* and by Ludwig as *Carpinus*.

Occurrence: Upper Oligocene; S. France (Armissan). Lower Miocene; Rhineland (Rött), Samland.

### *Pistacia hollicki* Knowlton.

1919 *Pistacia hollicki* Knowlton, p. 460 (nomen nudum).

1922 *Pistacia hollicki* Knowlton, p. 151, pl. XXVIII, figs. 5, 6.

Occurrence: Cretaceous; U.S.A. (Colorado, Denver Basin).

### *Pistacia lentiscoides* Unger.

1850 *Pistacia lentiscoides* Unger, p. 473.

1860 *Pistacia lentiscoides* Unger: Unger, p. 46, pl. XXI, fig. 14.

1861 *Pistacia lentiscoides* Unger: Ettingshausen, p. 260.

1874 *Pistacia lentiscoides* Unger: Schimper, p. 267.

1881 *Pistacia lentiscoides* Unger: Engler, p. 416.

Remarks: Schimper considers that this leaflet resembles *Rhus vanthoxyloides*.

Occurrence: Miocene; Styria (Parschlug).

### *Pistacia lentiscus* Linnaeus.

1858 *Pistacia lentiscus* Linn.: Heer, p. 783, pl. LI, figs. 1, 2.

1859 *Pistacia lentiscus* Linn.: Tornabene, p. 48, pl. II, figs. A, A<sup>1</sup>.

1896 *Pistacia lentiscus* Linn.: Lacroix, p. 657.

Remarks: See also *P. myrtifolia*, *P. narbonensis* and *P. oligocenica*, which are considered to be very close to *P. lentiscus*, and perhaps identical.

Occurrence: Pleistocene; Greece (Santorin); Italy (Etna).

### *Pistacia mettenii* Unger.

1860 *Pistacia mettenii* Unger, p. 46, pl. XXI, fig. 15.

1861 *Pistacia Mettenii* Unger: Ettingshausen, p. 260.

1868 *Pistacia mettenii* Unger: Ettingshausen, p. 884.

1874 *Pistacia mettenii* Unger: Schimper, p. 269.

1881 *Pistacia Mettenii* Unger: Engler, p. 416.

Remarks: Schimper thinks these fruits resemble those of *Sapindus* or *Koelreuteria*.

Occurrence: Oligocene; Germany (Hessen, Wetterau, Salzhauzen).

### *Pistacia miocenica* Saporta.

1861 *Pistacia miocenica* Saporta, p. 168.

1868a *Pistacia miocenica* Sap.: Saporta, p. 52, pl. VI, figs. 4—6.

- 1874 *Pistacia miocenica* Sap.: Schimper, p. 268.  
 1881 *Pistacia miocenica* Sap.: Engler, p. 416.  
 1888 *Pistacia miocenica* Sap.: Schenk, p. 544, fig. 310<sup>o</sup>.  
 1899 *Pistacia miocenica* Sap.: Schenk, p. 838.  
 [1911 *Pistacia miocenica* „Unger“?: Krasnov, p. 723.]  
 Occurrence: [Eocene; Russia]; Miocene; Marseille.

### *Pistacia myrtifolia* (Saporta).

- 1861 *Grevillea myrtifolia* Saporta, p. 145.  
 1862a *Grevillea myrtifolia* Saporta, p. 250, pl. VIII, fig. 11.  
 1862a *Andromeda arcinervis* Saporta, p. 266, pl. XI, fig. 7.  
 1873 *Pistacia (Lentiscus) aquensis* Saporta, p. 105, pl. XV, figs. 1—24.  
 1874 *Pistacia (Lentiscus) aquensis* Sap.: Schimper, p. 703.  
 1893 *Pistacia aquensis* Sap.: Saporta, p. XIV.  
 Remarks: This species is stated to be, like *P. oligocenica* Marion, practically indistinguishable from the living *P. lentiscus*.  
 Occurrence: Oligocene; France (Aix-en-Provence).

### *Pistacia narbonensis* Marion.

[Non *P. narbonensis* Linn., 1753, Sp. Pl., p. 1025]

- 1865a *Rhus affinis* Saporta (non Wall.), p. 207.  
 1872 *Pistacia (Lentiscus) narbonensis* Marion, p. 356, pl. XXIII, fig.  $\Phi$   
 1874 *Pistacia narbonensis* Marion: Schimper, p. 267.  
 1877 *Pistacia (Lentiscus) narbonensis* Marion: Marion, p. 82, pl. II, fig.  $\Phi$   
 1881 *Pistacia narbonensis* Marion: Engler, p. 416.  
 1888 *Pistacia narbonensis* Marion: Schenk, p. 539, fig. 309<sup>s</sup>.  
 1890 *Pistacia narbonensis* Marion: Schenk, p. 838.  
 1930 *Rhus affinis* Sap.: Calmet, p. 188.  
 Remarks: Engler agrees with Marion that this „species“ is indistinguishable from the living *P. lentiscus*.  
 Occurrence: Oligocene; France (Armissan).

### [*Pistacia oblanceolata* (Lesquereux).]

- 1873 *Ficus oblanceolata* Lesquereux, p. 387.  
 1878 *Ficus oblanceolata* Lesq.: Lesquereux, p. 194, pl. XXVIII, figs. 9—12.  
 1898a *Pistacia oblanceolata* (Lesq.) Knowlton, p. 167.  
 1919 *Ficus oblanceolata* Lesq.: Knowlton, p. 283.  
 Occurrence: Tertiary; U.S.A. (Wyoming, Black Buttes).

### *Pistacia oligocenica* Marion.

- 1872 *Pistacia (Lentiscus) oligocenica* Marion, p. 353, pl. XXIII, figs. 30—36.  
 1874 *Pistacia oligocenica* Marion: Schimper, p. 267.  
 1877 *Pistacia (Lentiscus) oligocenica* Marion: Marion, p. 79, pl. II, fig. 30—36.  
 1881 *Pistacia oligocenica* Marion: Engler, p. 416.  
 1888 *Pistacia oligocänica* Marion: Schenk, p. 539, fig. 309<sup>s</sup>.  
 1890 *Pistacia oligocänica* Marion: Schenk, p. 838.  
 1893 *Pistacia lentiscus oligocenica* Marion: Saporta, p. XV.

1902 *Pistacia lentiscus* var. *oligocenicum* Marion: Laurent, p. 199, pl. II, figs. 24—27.

1910 *Pistacia (Lentiscus) oligocenica* Marion: Lauby, p. 372.

Remarks: Engler agrees with Marion that this „species“ is indistinguishable from the living *P. lentiscus*.

Occurrence: Oligocene; France (Ronzon).

### *Pistacia palaeo-lentiscus* Ettingshausen.

1877 *Pistacia palaeo-lentiscus* Ettingshausen, p. 199, pl. XVIII, figs. 20—22.

1881 *Pistacia palaeo-lentiscus* Ett.: Engler, p. 416.

1888 *Pistacia palaeo-lentiscus* Ett.: Ettingshausen, p. 354, pl. IX, fig. 26.

Occurrence: Miocene; Styria.

### *Pistacia phaeacum* Heer.

1855 *Pistacia phaeacum* Heer, p. 32, pl. II, fig. 25

1874 *Pistacia Phaeacum* Heer: Schimper, p. 268.

1881 *Pistacia Phaeacum* Heer: Engler, p. 416.

Remarks: Compared with the living *P. atlantica*, and accepted as a *Pistacia* by Engler.

Occurrence: Quaternary; Madeira.

### *Pistacia reddita* (Saporta).

1861 *Rhus redditum* Saporta, p. 148.

1862b *Rhus reddita* Sap.: Saporta, p. 277, pl. XIII, fig. 2.

1873 *Pistacia reddita* (Saporta) Saporta, p. 103, pl. XV, figs. 25-35.

1874 *Rhus reddita* Sap.: Schimper, p. 270.

1874 *Pistacia reddita* (Sap.): Schimper, p. 702.

1881 *Rhus reddita* Sap.: Engler, p. 414.

1886 *Pistacia reddita* (Sap.): Saporta, p. 192.

1888 *Rhus reddita* Sap.: Schenk, p. 544, fig. 310<sup>3</sup>.

1890 *Pistacia reddita* (Sap.): Schenk, p. 838.

1893 *Pistacia reddita* (Sap.): Saporta, p. XIV.

Occurrence: Oligocene; France (Aix-en-Provence).

### *Pistacia sicula* Tornabene.

1859 *Pistacia sicula* Tornabene, p. 54, pl. IV, fig. A.

Occurrence: Pleistocene; Italy (Etna).

### *Pistacia terebinthus* Linn.

1859 *Pistacia terebinthus* Linn.: Tornabene, pp. 28, 43, pls. I, fig. A; VII, fig. A.

Remarks: Tornabene also distinguishes the variety *ovalifolia*.

Occurrence: Pleistocene; Italy (Etna).

### *Pistacia* sp.

1911 *Pistacia* sp.: Kafka, p. 42.

Occurrence: Oligocene; Bohemia (Preschen).

**Pseudosclerocarya** Reid & Chandler, 1933, p. 303.**Pseudosclerocarya lentiformis** Reid & Chandler.

1933 **Pseudosclerocarya lentiformis** Reid & Chandler, p. 303, pl. XIII, figs. 25—28.

Remarks: Endocarp, referable to the Spondieae.

Occurrence: Eocene (London Clay); England (Sheppey).

**Pseudosclerocarya subalata** Reid & Chandler.

1933 **Pseudosclerocarya subalata** Reid & Chandler, p. 304, pl. XIII, figs. 29—31.

Remarks: Endocarp.

Occurrence: Eocene (London Clay); England (Sheppey).

**Pseudospondias** Engler.**Pseudospondias microcarpa** Engler.

1920 **Pseudospondias microcarpa** Engler: Menzel, p. 27.

Occurrence: ? Pleistocene; Kameruns.

**Rhodium** Unger.**Rhodium juglandinum** Unger.

1850 **Rhodium juglandinum** Unger, p. 475.

1889 **Rhodium juglandinum** Unger: Staub, p. 190.

1890 **Rhodium juglandinum** Unger: Kaiser, p. 26.

Occurrence: Tertiary; Hungary (Antal, nr. Schemnitz).

**Rhodium philippinense** Crié.

1889 **Rhodium philippinense** Crié, p. 86, pl. IX (XVII), figs. 3, 4.

Occurrence: Tertiary; Philippines (Luzon, Manila, S. Juan del Monte).

**Rhodium ungeri** Mercklin.

1855 **Rhodium ungeri** Mercklin, p. 21, pl. I, fig. 1; II, figs. 1—10.

1865 **Rhodium ungeri** Mercklin: Eichwald, p. 65.

1890 **Rhodium ungeri** Mercklin: Kaiser, p. 26.

1913 **Rhodium ungeri** Mercklin: Stopes, p. 198.

Remarks: Compared with *Rhus juglandifolia*.

Occurrence: ? Cretaceous; Russia (Durasovka in Saratov).

**Rhoipites** Wodehouse, 1933, p. 513.**Rhoipites bradleyi** Wodehouse.

1933 **Rhoipites bradleyi** Wodehouse, p. 513.

Remarks: Pollen.

Occurrence: Eocene (Green River); U.S.A. (Colorado).

**Rhoophyllum** Dusen.**Rhoophyllum nordenskjoeldi** Dusen.

1907 **Rhoophyllum nordenskjoeldi** Dusen, p. 103, pl. XI, fig. 1.

1932 **Rhoophyllum nordenskjoeldi** Dusen: Berry, p. 10.

Occurrence: Tertiary; Magellansland, Patagonia.

**Rhoophyllum serratum** Dusen.

1907 **Rhoophyllum serratum** Dusen, p. 103, pl. XI, figs. 3, 4.

Occurrence: Tertiary; Magellansland.

**Rhus** Linnaeus.**Rhus abbreviata** Saporta.

1873 **Rhus abbreviata** Saporta, p. 110, pl. XV, fig. 41.

1874 **Rhus abbreviata** Saporta: Schimper, p. 704.

Occurrence: Oligocene; France (Aix-en-Provence).

**[Rhus acuminata** Lesq. (non De Candolle)].

1872 **Rhus acuminata** Lesquereux, p. 8.

1883 **Rhus acuminata** Lesq.: Lesquereux, p. 194, pl. XLII, figs. 14—17.

Remarks: Referred to *Weinmannia lesquereuxi* by Cockerell (1908, p. 93).

Occurrence: Eocene; U.S.A. (Wyoming). Miocene; U.S.A. (Colorado, Florissant).

**Rhus adscripta** Saporta.

1873 **Rhus adscripta** Saporta, p. 108, pl. XVI, fig. 6.

1874 **Rhus adscripta** Sap.: Schimper, p. 703.

Occurrence: Oligocene; France (Aix-en-Provence).

**[Rhus aegopodiifolia** Goeppert]

Synonym of **R. quercifolia** Goeppert, q. v.

**[Rhus affinis** Saporta (non Wall.)]

Synonym of **Pistacia narbonensis** Marion, q. v.

**Rhus ailanthifolia** Weber.

1851 **Rhus ailanthifolia** Weber, p. 403 (nomen).

1852 **Rhus ailanthifolia** Weber, p. 213, pl. XXIII, fig. 15.

1861 **Rhus ailanthifolia** Weber: Ettingshausen, p. 261.

1926 **Rhus ailanthifolia** Weber: Wilckens, p. 38.

Occurrence: Miocene; Rhineland (Bott.).

[*Rhus ambigua* Unger.][Non *R. ambigua* Lavallée, 1877, Arb. Segrez, p. 54 (nomen)]1849 *Rhus ambigua* Unger, p. 352, pl. V, fig. 9.1850 *Rhus ambigua* Unger: Unger, p. 475.1851 *Rhus ?ambigua* Unger: Stenzenberger, p. 86.Remarks: Transferred to *Zanthoxylon* by Massalongo (1858, p. 65; 1859, p. 104) and later authors (e. g. Heer, 1859, p. 277).

Wrongly stated by Unger to be from Oeningen.

Occurrence: Eocene; Italy (Monte Bolca).

*Rhus anceps* Heer.1859 *Rhus anceps* Heer, p. 85, pl. CXXVII, fig. 7.1861 *Rhus anceps* Heer: Ettingshausen, p. 262.1874 *Rhus anceps* Heer: Schimper, p. 272.1881 *Rhus anceps* Heer: Engler, p. 414.Remarks: Probably not *Rhus*, according to Engler.

Occurrence: Miocene; Baden (Oeningen).

[*Rhus angustifolia* (Ludwig) Engler (non Linn.)]Synonym of *R. munzenbergensis* Ett., q. v.*Rhus antilopum* Unger.1867 *Rhus antilopum* Unger, p. 79, pl. XIV, fig. 16.1874 *Rhus antilopum* Unger: Schimper, p. 276.1881 *Rhus antilopum* Unger: Engler, p. 415.1888 *Rhus antilopum* Unger: Schenk, p. 541.1890 *Rhus antilopum* Unger: Schenk, p. 838.Remarks: Compared with *Cotinus* by Schenk.

Occurrence: Miocene; Greece (Kumi, Euboea).

*Rhus antiqua* Bozzi.1892 (Jan.) *Rhus cretacea* Bozzi (non Heer) in Tommasi, p. 1119 (nomen nudum).1892 *Rhus antiqua* Bozzi, p. 377, pl. XVI, fig. 4.1913 *Rhus antiqua* Bozzi: Stopes, p. 199.

Occurrence: Cretaceous; Italy (Vernasso).

*Rhus appendiculata* Ettingshausen.1870 *Rhus appendiculata* Ettingshausen, p. 90, pl. VI, fig. 7.1874 *Rhus appendiculata* Ett.: Schimper, p. 278.1881 *Rhus appendiculata* Ett.: Engler, p. 415.1888 *Rhus appendiculata* Ett.: Ettingshausen, p. 355.1911 *Rhus appendiculata* Ett.: Engelhardt, p. 390, pl. XLII, fig. 29.

Occurrence: Oligocene; Germany (Flörsheim). Miocene; Styria (Leoben).

*Rhus arctica* Heer.1869 *Rhus arctica* Heer, p. 482, pl. XL, fig. 5 ee.1874 *Rhus arctica* Heer: Schimper, p. 280.

- 1881 *Rhus arctica* Heer: Engler, p. 415.  
1883a *Rhus arctica* Heer: Heer, p. 135.  
1888 *Rhus arctica* Heer: Schenk, p. 543.  
Occurrence: Tertiary; W. Greenland.

### *Rhus atavia* Schenk.

- 1883 *Rhus atavia* Schenk, p. 268, pl. I, figs. 9, 10.  
1888 *Rhus atavia* Schenk: Schenk, p. 543.  
1889 *Rhus atavia* Schenk: Schenk, p. 838.  
Occurrence: Tertiary; China.

[*Rhus atavia* Saporta, (non Schenk)].

Synonym of *Pistacia gervaisi* (Saporta), q. v.

[*Rhus atlantidis* „Ett. & Gard.“]

- 1880 *Rhus atlantidis* „Ett. & Gard.“: Ettingshausen, p. 235.  
Remarks: Nomen nudum.  
Occurrence: Eocene; England (Alum Bay).

### *Rhus balli* Brown.

- 1929 *Rhus balli* Brown, p. 287, pl. LXXIII, fig. 10.  
Remarks: Brown discusses at length the possible relationships of various leaves which have been referred to *Rhus* and *Weinmannia*.  
Occurrence: Eocene; U.S.A. (Colorado).

[*Rhus banksiaefolia* Massalongo.]

- 1859 *Rhus banksiaefolia* Massalongo, p. 104.  
1893 *Rhus banksiaefolia* Mass.: Meschinelli & Squinabol, p. 347.  
Remarks: Nomen nudum.  
Occurrence: Oligocene; Italy (Chiavon, Salcedo).

### *Rhus bella* Heer.

- 1869 *Rhus bella* Heer, p. 482, pl. LVI, figs. 3—5.  
1873 *Rhus bella* (?) Heer: Lesquereux, p. 407.  
1874 *Rhus bella* Heer: Schimper, p. 280.  
1880 *Rhus bella* Heer: Heer, p. 16, pl. VI, fig. 1.  
1881 *Rhus bella* Heer: Engler, p. 415.  
1883a *Rhus bella* Heer: Heer, p. 134, pl. LXVIII, fig. 3.  
1887 *Rhus bella*? Heer: Lesquereux, p. 44.  
1888 *Rhus bella* Heer: Schenk, p. 543.  
Occurrence: Tertiary; W. Greenland, U.S.A. (Montana, nr. Fort Ellis).

### *Rhus bendirei* Lesquereux.

- 1888 *Rhus bendirei* Lesquereux, p. 15, pl. IX, fig. 2.  
1902 *Rhus bendirei* Lesq.: Knowlton, p. 70.  
1920 *Rhus bendirei* Lesq. (?) Chaney, p. 178.  
Remarks: One of the leaves described by Lesquereux on p. 15 has been referred to *Juglans oregoniana* Lesq. by Knowlton (1902).  
Occurrence: Oligocene and Miocene; U.S.A. (Oregon).

**Rhus bidens** Heer.

1874a **Rhus bidens** Heer, p. 17, pl. I, fig. 6.

1881 **Rhus bidens** Heer: Heer, p. 21.

1883 **Quercus bidens** (Heer) Ettingshausen, p. 397.

1925 **Rhus bidens** Heer: Kräusel, p. 337.

1931 **Quercus bidens** (Heer). Posthumus, p. 491.

Remarks: A leaf species variously referred to *Rhus* or *Quercus*. Schenk (1888, p. 543) also compares it with *Castanopsis*.

Occurrence: Tertiary; Sumatra.

**Rhus bidentata** Pilar.

1883 **Rhus bidentata** Pilar, p. 113, pl. XIII, fig. 9.

Occurrence: Miocene; Croatia (Dolje).

**Rhus blitum** Saporta.

1862a **Rhus blitum** Saporta, p. 279, pl. XIII, fig. 4.

1873 **Rhus „oblita“** Sap.: Saporta, p. 109.

1874 **Rhus Blitum** Sap.: Schimper, p. 276.

1881 **Rhus Blitum** Sap.: Engler, p. 415.

Occurrence: Oligocene; France (Aix-en-Provence).

**Rhus boweniana** Lesquereux.

1878 **Rhus boweniana** Lesquereux, p. 29, pl. IX, figs. 8, 9.

1896 **Rhus boweniana** Lesq.: Knowlton, in Lindgren, p. 890.

1911a **Rhus boweniana** Lesq.: Knowlton, pp. 59, 62.

Occurrence: Miocene (Auriferous Gravels); U.S.A. (California).

**Rhus brunneri** Fischer-Ooster.

1856 **Rhus Brunneri** F.-O.: Gaudin & La Harpe, pp. 365, 428, 431 (nomen nudum).

1859 **Rhus Brunneri** Fischer-Ooster in Heer, p. 83, pl. CXXVI, figs. 12—19.

1861 **Rhus Brunneri** F.-O.: Ettingshausen, p. 261.

1868 **Rhus Brunneri** F.-O.: Heer, p. 153, pl. XXVII, fig. 9.

1870 **Rhus brunneri** F.-O.: Württenberger, p. 577.

1874 **Rhus Brunneri** F.-O.: Schimper, p. 279.

1881 **Rhus Brunneri** F.-O.: Engler, p. 415.

1899 **Rhus Brunneri** F.-O.: Boulay, p. 124 (70), pl. IX, fig. 97.

1910 **Rhus brunneri** F.-O.: Lauby, p. 372.

1921 **Rhus brunneri** F.-O.: Fritel, p. 384.

1929 **Rhus brunneri** F.-O.: Scheid, p. 80.

Occurrence: Miocene; Germany (Baden), Iceland, Switzerland, France.

**Rhus caryaefolia** Massalongo.

1857 **Rhus caryaefolia** Massalongo, p. 24.

1858 **Rhus caryaefolia** Mass.: Massalongo, p. 400, pl. XXVI; XXVII, fig. 35.

1893 **Rhus caryaefolia** Mass.: Meschinelli & Squinabol, p. 346.

Occurrence: Miocene; Sinigaglia.

**Rhus cassiaeformis** Ettingshausen.

- 1853 **Rhus cassiaeformis** Ettingshausen, p. 81, pl. XXVI, figs. 30-38.  
 1861 **Rhus cassiaeformis** Ett.: Ettingshausen, p. 262.  
 1870 **Rhus cassiaeformis** Ett.: Ettingshausen, p. 91.  
 1874 **Rhus cassiaeformis** Ett.: Schimper, p. 273.  
 1881 **Rhus cassiaeformis** Ett.: Engler, p. 414.  
 1888 **Rhus cassiaeformis** Ett.: Ettingshausen, p. 355.  
 1903 **Rhus cassiaeformis** Ett.: Menzel, p. 17.  
 1910 **Rhus cassiaeformis** Ett.: Brabenec, p. 242.  
 1911 **Rhus cassiaeformis** Ett.: Kafka, p. 62.

Occurrence: Oligocene; Bohemia, Austria.

**Rhus cassioides** Lesquereux.

- 1883 **Rhus cassioides** Lesquereux, p. 193, pl. XLI, fig. 11.  
 Occurrence: Miocene; U.S.A. (Colorado, Florissant).

**Rhus colligenda** Saporta.

- 1867 **Rhus colligenda** Saporta, p. 111, pl. XII, fig. 1.  
 1874 **Rhus colligenda** Sap.: Schimper, p. 275.  
 1881 **Rhus colligenda** Sap.: Engler, p. 415.  
 Occurrence: Tertiary; S.E. France (Bois d'Asson).

**Rhus coloradensis** Knowlton.

- 1924 **Rhus coloradensis** Knowlton, p. 90, pl. X, fig. 4.  
 Occurrence: Eocene; U.S.A. (Colorado).

**Rhus copalifolia** Saporta.

- 1863a **Rhus copalifolia** Saporta, p. 96, pl. XI, fig. 3.  
 1874 **Rhus copalifolia** Sap.: Schimper, p. 275.  
 1881 **Rhus copalifolia** Sap.: Engler, p. 415.  
 Occurrence: Tertiary; France (St. Zacharie).

**Rhus coriacea** Engelhardt.

[Non **R. coriacea** Engler, 1883,

in D. C., Monogr. Phan., IV, p. 418.]

- 1880 **Rhus coriacea** Engelhardt, p. 145, pl. VIII, fig. 18.  
 1910 **Rhus coriacea** Engelh.: Brabenec, p. 243.  
 Occurrence: Miocene; Bohemia.

**Rhus coriaria** Linnaeus.

- 1929 **Rhus coriaria** L. (?): Stojanoff & Stefanoff, p. 80, pl. IX, fig. 10; text-fig. 21, fig. 2.  
 Occurrence: Pliocene; Bulgaria.

**Rhus coriarioides** Lesquereux.

- 1883 **Rhus coriarioides** Lesquereux, p. 193, pl. XLI, fig. 3.  
 1910 **Rhus coriarioides** Lesq.: Cockerell, p. 38, text-fig. 4.  
 Occurrence: Miocene; U.S.A. (Colorado, Florissant).

[*Rhus cotinus* Linnaeus]

Synonym of *Cotinus coggygia* Scop., q. v.

*Rhus crepini* Pilar.

1883 *Rhus crepini* Pilar, p. 114, pl. X, fig. 11.

Occurrence: Miocene; Croatia (Dolje).

*Rhus cretacea* Heer.

1871a *Rhus cretacea* Heer, p. 14, pl. III, fig. 11.

1888 *Rhus cretacea* Heer: Schulze, p. 22.

1906 *Rhus cretacea* Heer: Hollick, p. 87, pl. XXXIII, fig. 2.

1913 *Rhus cretacea* Heer: Stopes, p. 199.

Occurrence: Cretaceous; Saxony (Quedlinburg), U.S.A. (Long Island).

[*Rhus cretacea* Bozzi (non Heer)]

Synonym of *Rhus antiqua* Bozzi, q. v.

[*Rhus cretacea* Velenovsky (non Heer)].

1887 *Rhus cretacea* Velenovsky, p. 7, pl. IV, figs. 7—12.

1896 *Rhus cretacea* Velen.: Bayer, p. 24.

1897 *Rhus cretacea* Velen.: Frič, p. 81, fig. 117.

1913 *Rhus cretacea* Velen.: Stopes, p. 199.

Remarks: Velenovsky's specific name is pre-occupied, but the identification of these leaves is so dubious that they are not worth re-naming.

Occurrence: Cretaceous; Bohemia.

*Rhus cuneolata* Unger.

1848 *Rhus cuneolata* Unger, p. 509.

1849 *Rhus cuneolata* Unger: Brongniart, p. 122.

1850 *Rhus cuneolata* Unger: Unger, p. 474.

1860 *Rhus cuneolata* Unger: Unger, p. 44, pl. XX, fig. 12.

1861 *Rhus cuneolata* Unger: Ettingshausen, p. 262.

1874 *Rhus cuneolata* Unger: Schimper, p. 271.

1881 *Rhus cuneolata* Unger: Engler, p. 414.

Occurrence: Miocene; Styria (Parschlug).

[*Rhus cyclophylla* „Ett. & Gard.“]

1880 *Rhus cyclophylla* „Ett. & Gard.“: Ettingshausen, p. 235.

Remarks: Nomen nudum.

Occurrence: Eocene; England (Alum Bay).

*Rhus darlingtonensis* Berry.

1914 *Rhus darlingtonensis* Berry, p. 51, pl. IX, figs. 7, 8.

Occurrence: Upper Cretaceous; U.S.A. (S. Carolina).

**Rhus decora** Saporta.

- 1865a *Rhus decora* Saporta, p. 205, pl. XIII, fig. 5.  
1874 *Rhus decora* Sap.: Schimper, p. 277.  
1881 *Rhus decora* Sap.: Engler, p. 415.  
1930 *Rhus decora* Sap.: Calmet, p. 188.

Occurrence: Oligocene; France (Armissan).

**Rhus degener** Ettingshausen.

- 1853 *Rhus degener* Ettingshausen, p. 80, pl. XXVI, fig. 39.  
1861 *Rhus degener* Ett.: Ettingshausen, p. 261.  
1874 *Rhus degener* Ett.: Schimper, p. 272.  
1881 *Rhus degener* Ett.: Engler, p. 414.

Occurrence: Oligocene; Austria (Häring).

**Rhus deleta** Heer.

- 1859 *Rhus deleta* Heer, p. 83, pl. CXXVII, fig. 8; CLIV, fig. 26.  
1861 *Rhus deleta* Heer: Ettingshausen, p. 261.  
1868 *Rhus deleta* Heer: Ettingshausen, p. 884, pl. V, fig. 11.  
1872 *Rhus deleta* Heer: Lesquereux, p. 12.  
1874 *Rhus deleta* Heer: Schimper, p. 279.  
1881 *Rhus deleta* Heer: Engler, p. 415.  
1883 *Rhus deleta* Heer: Probst, p. 228.  
1903 *Rhus deleta* Heer: Menzel, p. 17.  
1910 *Rhus deleta* Heer: Brabenec, p. 241.  
1911 *Rhus deleta* Heer: Kafka, p. 42.

Remarks: According to Ettingshausen (1868), the specimen figured by Ludwig (1860, pl. LIV, fig. 18) as *R. pteleaefolia* belongs to this species.

Occurrence: Oligocene; Bohemia, Germany (Salzhausen).  
Miocene; Baden (Oeningen). Tertiary; U.S.A. (Wyoming).

**Rhus dens-mortis** Bayer.

- 1893 *Rhus dens mortis* Bayer, pp. 19, 42, text-fig. 13.  
1893 *Rhus dens mortis* Bayer: Frič, p. 130, fig. 185.  
1913 *Rhus dens mortis* Bayer: Stopes, p. 199.

Remarks: An unidentifiable fragment.

Occurrence: Cretaceous; Bohemia (Priesen).

**Rhus denticulata** Saporta.

- 1889 *Rhus denticulata* Saporta, p. 107, pl. XVI, fig. 15.  
Occurrence: Oligocene; France (Aix-en-Provence).

**Rhus deperdita** Staub.

- 1881 *Rhus deperdita* Staub, p. 272, pl. V, figs. 2, 3.  
Occurrence: Miocene; Roumania (Krasso-Szorenyer Kom.).

**Rhus derelicta** Saporta.

- 1865 *Rhus derelicta* Saporta, p. 133, pl. VIII, fig. 3.  
1874 *Rhus derelicta* Sap.: Schimper, p. 275.  
1881 *Rhus derelicta* Sap.: Engler, p. 415.  
Occurrence: Tertiary; France (Fenestrelle, Allauch).

**Rhus dispersa** Lesquereux.

- 1878 **Rhus dispersa** Lesquereux, p. 32, pl. I, fig. 23.  
 1896 **Rhus dispersa** Lesq.: Knowlton in Lindgren, p. 890.  
 1911a **Rhus dispersa** Lesq.: Knowlton, pp. 60, 62.  
 Occurrence: Miocene; U.S.A. (California).

**Rhus distracta** Saporta.

- 1862a **Rhus distracta** Saporta, p. 279.  
 1873 **Rhus distracta** Sap.: Saporta, p. 109, pl. XV, fig. 40.  
 1874 **Rhus distracta** Sap.: Schimper, p. 271.  
 1881 **Rhus distracta** Sap.: Engler, p. 414.  
 Occurrence: Oligocene; France (Aix-en-Provence).

**Rhus diversiloba** Torr. & Gray.

- 1932 **Rhus diversiloba** T. & G.: Potbury, p. 36, pl. 4, fig. 1.  
 1933 **Rhus diversiloba** T. & G.: Chaney & Mason, p. 62.  
 1934 **Rhus diversiloba** T. & G.: Mason, p. 166, pl. X, fig. 3.  
 Remarks: Potbury's reference is to a seed of a species which still lives in California. Chaney & Mason refer to wood fragments only.  
 Occurrence: Pleistocene; U.S.A. (California).

**[Rhus (?) drymeja** Lesquereux.]

- 1874 **Rhus (?) drymeja** Lesquereux, p. 416.  
 Remarks: Referred to *Myrica drymeja* (Lesq.) by Knowlton (1916, p. 256) and also to *Callicoma microphylla* Ett. by Principi (1926, p. 65).  
 Occurrence: Miocene; U.S.A. (Colorado).

**Rhus dunelmensis** Reid.

- 1920 **Rhus dunelmensis** Reid, E. M., p. 129, pl. IX, fig. 11.  
 Remarks: Endocarp.  
 Occurrence: Middle Pliocene; England (Castle Eden).

**Rhus effossa** Saporta.

- 1889 **Rhus effossa** Saporta, p. 107, pl. XV, fig. 10.  
 Occurrence: Oligocene; France (Aix-en-Provence).

**Rhus elaeodendroides** Unger.

- 1848 **Rhus elaeodendroides** Unger, p. 509.  
 1849 **Rhus elaeodendroides** Unger: Brongniart, p. 122.  
 1850 **Rhus elaeodendroides** Unger: Unger, p. 474.  
 1860 **Rhus elaeodendroides** Unger: Unger, p. 45, pl. XXI, figs. 1-11.  
 1861 **Rhus elaeodendroides** Unger: Ettingshausen, p. 262.  
 1862 **Rhus elaeodendroides** Unger: Unger, p. 179, fig. 47.  
 1867b **Rhus elaeodendroides** Unger: Saporta, p. 418, pl. LXIV, fig. 8.  
 1868 **Rhus elaeodendroides** Unger: Saporta, p. 321.  
 1874 **Rhus elaeodendroides** Unger: Schimper, p. 276.

- 1881 *Rhus elaeodendroides* Unger: Engler, p. 415.  
 1885 *Rhus elaeodendroides* Unger: Engelhardt, p. 364, pl. XXV, figs. 8, 9.  
 1898 *Rhus elaeodendroides* Unger: Engelhardt, p. 111.  
 1903 *Rhus elaeodendroides* Unger: Menzel, p. 17.  
 1910 *Rhus elaeodendroides* Unger: Brabenec, p. 239.  
 1911 *Rhus elaeodendroides* Unger: Kafka, p. 42.

Remarks: According to Fritel (1921, p. 580) Unger's specimen from Kumi (1862, p. 179, fig. 47) belongs to *Quercus zoroasteri* Unger.

Occurrence: Oligocene; Bohemia. Miocene; Styria (Par-schlug), Greece (Kumi, Euboea).

### *Rhus elegans* Velenovsky.

[Non *R. elegans* Aiton, 1789, Hort. Kew. ed. 1, p. 366.]

- 1881 *Rhus elegans* Velenovsky, p. 45, pl. X, figs. 5—11.  
 1910 *Rhus elegans* Velen.: Brabenec, p. 240, text-fig. 150 f.  
 Occurrence: Miocene; Bohemia (Laun, Zelenky).

### *Rhus engleri* Nathorst.

- 1883 *Rhus engleri* Nathorst, p. 59, pl. X, fig. 1.  
 1883 *Rhus engleri* Nathorst: Saporta, p. 160.  
 1884 *Rhus engleri* Nathorst: Saporta, p. 84.  
 Occurrence: Tertiary; Japan.

### *Rhus evansii* Lesquereux.

- 1872a *Rhus evansii* Lesquereux, p. 293.  
 1873 *Rhus evansii* Lesq.: Lesquereux, p. 402.  
 1878a *Rhus evansii* Lesq.: Lesquereux, p. 291, pl. L, fig. 4; LVIII, figs. 5—9.  
 1913 *Rhus evansii* Lesq.: Stopes, p. 199.  
 Occurrence: Miocene; U.S.A. (Colorado). Tertiary; U.S.A. (Wyoming).

### [*Rhus fraterna* Lesquereux]

Synonym of *Cotinus fraterna* (Lesq.), q. v.

### *Rhus fraxinoides* Ettingshausen.

- 1853 *Rhus fraxinoides* Ettingshausen, p. 80, pl. XXVI, fig. 43.  
 1861 *Rhus fraxinoides* Ett.: Ettingshausen, p. 261.  
 1874 *Rhus fraxinoides* Ett.: Schimper, p. 272.  
 1881 *Rhus fraxinoides* Ett.: Engler, p. 414.  
 Occurrence: Oligocene; Austria (Häring).

### *Rhus frigida* Knowlton.

- 1894 *Rhus frigida* Knowlton, p. 227, pl. IX, fig. 6.  
 1894a *Rhus frigida* Knowlton: Knowlton, p. 586.  
 1896 *Rhus frigida* Knowlton: Knowlton, pp. 888, 896.  
 Remarks: Very much like *R. meriani*, „almost impossible to distinguish“.  
 Occurrence: ? Miocene; Alaska (Hereenden Bay).

[*Rhus gervaisii* (Saporta)]

Synonym of *Pistacia gervaisi* Saporta, q. v.

*Rhus glowackii* Ettingshausen.

- 1888 *Rhus glowackii* Ettingshausen; p. 356, pl. IX, figs. 14, 14a.  
Occurrence: Miocene; Styria (Leoben).

*Rhus gracilis* Saporta.

- 1863a *Rhus gracilis* Saporta, p. 95.  
1873 *Rhus gracilis* Sap.: Saporta, p. 109, pl. XVI, fig. 4.  
1874 *Rhus gracilis* Sap.: Schimper, pp. 274, 708.  
1881 *Rhus gracilis* Sap.: Engler, p. 415.  
1886 *Rhus gracilis* Sap.: Saporta, p. 192.  
Occurrence: Oligocene; France (Aix-en-Provence).

*Rhus griffithsii* Hook fil. *fossilis* Nathorst.

- 1883 *Rhus griffithsii* Hook fil. *fossilis* Nathorst, p. 186, pl. XVI, figs. 10, 11; XVII, fig. 13.  
1883 *Rhus griffithsii* Hook fil. *fossilis* Nathorst: Saporta, p. 160.  
1884 *Rhus griffithsii* Hook fil. *fossilis* Nathorst: Saporta, p. 84.  
Occurrence: Tertiary; Japan.

[*Rhus hartogiaefolia* Massalongo.]

- 1859 *Rhus hartogiaefolia* Massalongo, p. 104.  
1893 *Rhus hartogiaefolia* Mass.: Meschinelli & Squinabol, p. 347.  
Remarks: Nomen nudum.

[*Rhus haydeni* Lesquereux.]

- 1874 *Rhus haydeni* Lesquereux, p. 417.  
1878a *Rhus Haydenii* Lesq.: Lesquereux, p. 294, pl. LVIII, fig. 12.  
1888 *Rhus Haydeni* Lesq.: Schenk, p. 544, fig. 310<sup>4</sup>.  
Remarks: Referred to *Weinmannia haydenii* (Lesq.) by Cockrell (1908, p. 93).  
Occurrence: Miocene; Colorado (Florissant).

*Rhus helladotherii* Unger.

- 1867 *Rhus helladotherii* Unger, p. 78, pl. XIV, figs. 14, 15.  
1874 *Rhus Helladotherii* Unger: Schimper, p. 272.  
1881 *Rhus Helladotherii* Unger: Engler, p. 414.  
Remarks: According to Fritel (1922, p. 127) Unger's fig. 14 should be referred to *Sapindus graecus*.  
Occurrence: Miocene; Greece (Kumi, Euboea).

*Rhus herthae* Unger.

- 1848 *Rhus herthae* Unger, p. 509.  
1849 *Rhus Herthae* Unger: Brongniart, p. 122.  
1850 *Rhus Herthae* Unger: Unger, p. 473.

- 1850a *Rhus herthae* Unger: Unger, p. 126, pl. XIV, fig. 21.  
 1860 *Rhus herthae* Unger: Unger, p. 42, pl. XX, figs. 7—9.  
 1861 *Rhus Herthae* Unger: Ettingshausen, p. 262.  
 1867 *Rhus herthae* Unger: Stur, p. 183.  
 1870 *Rhus herthae* Unger: Unger, p. 13, pl. IV, fig. 10.  
 1874 *Rhus Herthae* Unger: Schimper, p. 271.  
 1881 *Rhus Herthae* Unger: Engler, p. 414.  
 1885 *Rhus herthae* Unger: Engelhardt, p. 364, pl. XXV, figs. 10, 12.  
 1888 *Rhus Herthae* Unger: Schenk, p. 544, fig. 310.  
 1902b *Rhus herthae* Unger: Engelhardt, p. 142.  
 1903 *Rhus herthae* Unger: Engelhardt, p. 132, pl. III, fig. 15.  
 1904 *Rhus herthae* Unger: Engelhardt, p. 382, pl. XCIV, fig. 15.  
 1910 *Rhus Herthae* Unger: Brabenec, p. 239.

Occurrence: Oligocene; Bohemia, Yugo-Slavia (Visoko). Miocene; Styria (Parschlug), Hungary (Szantod). Tertiary; Galicia.

### *Rhus heterodonta* Principi.

- 1921 *Rhus heterodonta* Principi, p. 91.  
 1926 *Rhus heterodonta* Prin.: Principi, p. 70, pl. VII, fig. 20; VIII, figs. 4, 5.

Occurrence: Oligocene; Italy (Salcedo).

### *Rhus heufleri* Heer.

- 1859 *Rhus Heufleri* Heer, p. 85, pl. CXXVII, figs. 3—6.  
 1861 *Rhus Heufleri* Heer: Ettingshausen, p. 262.  
 1870 *Rhus heufleri* Heer: Württenberger, p. 577.  
 1874 *Rhus Heufleri* Heer: Schimper, p. 274.  
 1881 *Rhus Heufleri* Heer: Engler, p. 415.  
 1883 *Rhus heufleri* Heer: Probst, p. 228.  
 1888 *Rhus heufleri*? Heer: Lesquereux, p. 26.  
 1892 *Rhus heufleri* Heer: Boulay, p. 86, pl. VIII, figs. 16—19.  
 1897 *Rhus Heufleri* Heer: Almera, p. 17.  
 1898 *Rhus Heufleri* Heer: Almera, p. 686.  
 1899 *Rhus heufleri* Heer: Peola, p. 37.  
 1899a *Rhus heufleri* Heer: Peola, p. 105.  
 1900 *Rhus heufleri* Heer: Peola, p. 245.  
 1903 *Rhus heufleri* Heer: Menzel, p. 17.  
 1910 *Rhus heufleri* Heer: Lauby, p. 372.  
 1911 *Rhus heufleri* Heer: Kafka, p. 42.  
 1911a *Rhus heufleri* Heer: Knowlton, p. 62.  
 1920 *Rhus heufleri* Heer: Vaulx & Marty, p. 293.

Occurrence: Oligocene; Bohemia (Preschen). Miocene; Baden (Oeningen, Klettgau), Switzerland (Locle), U.S.A. (California). Pliocene; France (Mont-Dore, Varennes, Dent du Marais), Italy (Sciolze, Langhiano), Barcelona (Montjuich).

### *Rhus hilliae* Lesquereux.

- 1883 *Rhus hilliae* Lesquereux, p. 194, pl. XL, figs. 12—15.  
 1908 *Rhus hilliae* Lesq.: Cockerell, p. 99.  
 1916 *Rhus hilliae* Lesq.: Knowlton, p. 278.

Occurrence: Miocene; U.S.A. (Colorado, Florissant).

### *Rhus holbolliana* Heer.

- 1883a *Rhus holbolliana* Heer, p. 134, pl. LXIX, fig. 7.  
 Occurrence: Tertiary; Greenland (Atanekrdluk).

**Rhus hydrophila** (Unger) Ettingshausen.

- 1851 *Juglans hydrophila* Unger, p. 179, pl. LIII, fig. 5 (only).  
 1858 *Rhus hydrophila* (Unger) Ettingshausen, p. 539.  
 1861 *Rhus hydrophila* (Unger): Heer, p. 30.  
 1861 *Rhus hydrophila* (Unger): Ettingshausen, p. 261.  
 1869 *Rhus hydrophila* (Unger): Ettingshausen, p. 49, pl. LI, fig. 3.  
 1877 *Rhus hydrophila* (Unger): Ettingshausen, p. 200, pl. XVIII, fig. 15.  
 1881 *Rhus hydrophila* (Unger): Engler, p. 416.  
 1906 *Rhus hydrophila* (Unger): Kerner, p. 70.  
 1907 *Rhus hydrophila* (Unger): Kerner, p. 139.  
 1910 *Rhus hydrophila* (Unger): Brabenec, p. 241, text-fig. 150c.  
 1911 *Rhus hydrophila* (Unger): Kafka, pp. 28, 62.

Occurrence: Oligocene; Bohemia (Kutschlin, Sulloditz), Carniola (Sagor). Miocene; Styria (Sotzka), Baden (Oeningen). Tertiary; Dalmatia (Ruda).

**Rhus incisa** Saporta.

[Non *R. incisa* Linn. f., 1781, Suppl., p. 183]

- 1867 *Rhus incisa* Saporta, p. 111, pl. XI, fig. 4.  
 1874 *Rhus incisa* Sap.: Schimper, p. 271.  
 1881 *Rhus incisa* Sap.: Engler, p. 414.

Occurrence: Tertiary; S.E. France.

**Rhus intermedia** Ettingshausen.

- 1888 *Rhus intermedia* Ettingshausen, p. 355, pl. I, fig. 12; IX, figs. 12, 13.

Occurrence: Miocene; Styria (Leoben).

**[Rhus jasminifolia** Massalongo.]

- 1850 *Rhus jasminifolia* Massalongo, p. 69 (not seen).

Remarks: Synonym of *Robinia decampii* Massalongo, 1850, p. 68, which was later transferred to *Drepanocarpus*, and also includes *Rhus oeningensis* Unger (q. v.). See Meschinelli & Squinabol, 1893, p. 456, for further references.

**Rhus juglandina** Ettingshausen.

- 1870 *Rhus juglandina* Ettingshausen, p. 91, pl. III, fig. 21.  
 1874 *Rhus juglandina* Ett.: Schimper, p. 278.  
 1881 *Rhus juglandina* Ett.: Engler, p. 415.  
 1888 *Rhus juglandina* Ett.: Ettingshausen, p. 355.

Occurrence: Miocene; Styria (Leoben).

**Rhus juglandogene** Ettingshausen.

- 1853 *Rhus juglandogene* Ettingshausen, p. 80.  
 1861 *Rhus juglandogene* Ett.: Ettingshausen, p. 261.  
 1865a *Rhus juglandogene* Ett.: Saporta, p. 204, pl. XIII, fig. 2.  
 1867 *Rhus juglandogene* Ett.: Saporta, p. 110.  
 1869 *Rhus juglandogene* Ett.: Ettingshausen, p. 50, pl. L, fig. 13.

- 1874 *Rhus juglandogene* Ett.: Schimper, p. 276.  
 1876 *Rhus juglandogene* Ett.: Engelhardt, p. 390, pl. VII, fig. 15.  
 1881 *Rhus juglandogene* Ett.: Engler, p. 415.  
 1888 *Rhus juglandogene* Ett.: Schenk, p. 539, fig. 309<sup>1</sup>.  
 1898 *Rhus juglandogene* Ett.: Engelhardt, p. 111.  
 1899 *Rhus juglandogene* Ett.: Laurent, p. 136, pl. XIV, fig. 8.  
 1908 *Rhus juglandogene* Ett.: Lauby, p. 156.  
 1910 *Rhus juglandogene* Ett.: Lauby, pp. 122, 372.  
 1910 *Rhus juglandogene* Ett.: Brabenec, p. 243, text-fig. 150 i.  
 1910 *Rhus juglandogene* Ett.: Engelhardt, p. 164, pl. IV, fig. 6.  
 1911 *Rhus juglandogene* Ett.: Kafka, pp. 28, 53, 62.  
 1912 *Rhus juglandogene* Ett.: Engelhardt, p. 629, pl. XXXV, fig. 6.  
 1922 *Rhus juglandogene* Ett.: Engelhardt, p. 105, pl. XXXVI, fig. 12.  
 1930 *Rhus juglandogene* Ett.: Calmet, p. 188.  
 1933 *Rhus juglandogene* Ett.: Gothan & Sapper, p. 23, pl. V, fig. 4.  
 Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt). Oligocene and Miocene; Bohemia, France, Bosnia.

### *Rhus latoniae* Ettingshausen.

- 1885 *Rhus latoniae* Ettingshausen, p. 26, pl. XXXII, fig. 9.  
 1911 *Rhus latoniae* Ett.: Engelhardt, p. 391, pl. XLII, fig. 60.  
 Occurrence: Oligocene; Carniola (Sagor), Germany (Flörsheim).

### *Rhus leporina* Heer.

- 1883a *Rhus leporina* Heer, p. 135, pl. XCIV, fig. 5.  
 Occurrence: Tertiary; Greenland (Hare I.).

### *Rhus lesquereuxiana* Heer.

- 1859 *Rhus Lesquereuxiana* Heer, p. 83, pl. OLIV, fig. 25.  
 1860 *Rhus lesquereuxiana* Heer: Gaudin & Strozzi, p. 54, pl. VII, fig. 10.  
 1861 *Rhus Lesquereuxiana* Heer: Ettingshausen, p. 261.  
 1864 *Rhus lesquereuxiana* Heer: Gaudin & Strozzi, pp. 5, 30.  
 1874 *Rhus Lesquereuxiana* Heer: Schimper, p. 279.  
 1881 *Rhus Lesquereuxiana* Heer: Engler, p. 415.  
 1893 *Rhus Lesquereuxiana* Heer: Meschinelli & Squinabol, p. 346.  
 Occurrence: Tertiary; Switzerland (Locle), Italy (Val d'Arno, Gaville, Castelnuovo).

### [*Rhus lesquereuxii* Knowlton & Cockerell.]

- 1919 *Rhus lesquereuxii* Knowlton & Cockerell, p. 552.  
 1923 *Rhus lesquereuxii* Knowl. & Cock.: Knowlton, p. 167.  
 Remarks: This name was presumably included in error by Knowlton and is a synonym of *Weinmannia lesquereuxii* Cockerell.  
 See *R. acuminata* Lesq.

### [*Rhus lestrigonom* Massalongo.]

- 1851 *Rhus lestrigonom* Massalongo, pp. 51, 202, (nomen nudum).  
 Remarks: Afterwards described as a *Drepanocarpus* and later transferred to *Pterocarpus* (Massalongo, 1858; Meschinelli & Squinabol, 1893, p. 456).

**Rhus longepetiolata** (Lesq.) Brown.

1883 *Ailanthus longepetiolata* Lesquereux, p. 197, pl. XL, fig. 6 (non fig. 7).

1929 *Rhus myricoides* Knowlton: Brown, p. 287, pl. LXXXIII, fig. 9.

1934 *Rhus longepetiolata* (Lesq.) Brown, p. 59.

Occurrence: Eocene (Green River); U.S.A. (Colorado).

**Rhus longifolia** Engelhardt.

[Non *R. longifolia* Sonder, 1859

in Sond. & Harv., Fl. Cap. 1, p. 522.]

1922 *Rhus longifolia* Engelhardt, p. 105, pl. XXXVI, fig. 13.

Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt).

**Rhus macilenta** Saporta.

1889 *Rhus macilenta* Saporta, p. 107, pl. XV, fig. 9.

Occurrence: Oligocene; France (Aix-en-Provence).

**Rhus malpighiaefolia** Weber.

1851 *Rhus malpighiaefolia* Weber, p. 404 (nomen nudum).

1852 *Rhus malpighiaefolia* Weber, p. 214, pl. XXIII, fig. 12.

1861 *Rhus malpighiaefolia* Weber: Ettingshausen, p. 261.

1874 *Rhus malpighiaefolia* Weber: Schimper, p. 273.

1881 *Rhus malpighiaefolia* Weber: Engler, p. 414.

1926 *Rhus malpighiaefolia* Weber: Wilckens, p. 38.

Remarks: According to Schimper (1874, p. 158) this species very likely belongs to *Malpighiastrum glabraefolium* (Wessel & Weber) Schimper.

Occurrence: Upper Oligocene and Lower Miocene; Rhineland.

**Rhus membranacea** Lesquereux.

1876 *Rhus membranacea* Lesquereux, p. 306.

1876a *Rhus membranacea* Lesq.: Lesquereux, p. 369.

1878a *Rhus membranacea* Lesq.: Lesquereux, p. 292, pl. LXIV, figs. 6, 7.

1897 *Rhus membranacea* Lesq.: Stanton & Knowlton, p. 154.

1900 *Rhus membranacea* Lesq.: Knowlton, p. 61.

1913 *Rhus membranacea* Lesq.: Stopes, p. 199.

Occurrence: Cretaceous (Mesaverde); U.S.A. (Wyoming, Point of Rocks).

**Rhus mensae** Cockerell.

1878 *Rhus metopioides* Lesquereux (non Turc.), p. 31, pl. VIII, figs. 12, 13.

1908 *Rhus mensae* Cockerell, p. 543.

1911a *Rhus metopioides* Lesq.: Knowlton, p. 60.

Occurrence: Miocene (Auriferous Gravels); U.S.A. (California).

**Rhus meriani** Heer.

- 1853 **Rhus meriani** Heer, p. 147.  
 1859 **Rhus Meriani** Heer: Heer, p. 82, pl. CXXVI, figs. 5—11.  
 1860 **Rhus meriani** Heer: Unger in Rolle & Unger, p. 51, pl. V, fig. 5.  
 1861 **Rhus Meriani** Heer: Ettingshausen, p. 260.  
 1861 **Rhus meriani** Heer: Brongniart, p. 1236.  
 1874 **Rhus Meriani** Heer: Schimper, p. 278.  
 1880 **Rhus meriani** Heer: Sieber, p. 90, pl. V, figs. 39—40.  
 1881 **Rhus Meriani** Heer: Engler, p. 415.  
 1881 **Rhus meriani** Heer: Velenovsky, p. 44, pl. VII, figs. 16—20; VIII, fig. 27; X, fig. 12.  
 1883 **Rhus meriani** Heer: Probst, p. 228.  
 1883 **Rhus meriani** Heer: Steger, p. 25.  
 1884 **Rhus meriani** Heer: Engelhardt, p. 148.  
 1891a **Rhus meriani** Heer: Engelhardt, p. 193, pl. XVII, figs. 10, 18, 20, 22, 23; XVIII, figs. 1, 3, 8, 9, 11, 17.  
 1894 **Rhus meriani** Heer: Engelhardt, p. 197, pl. II, fig. 9; IV, fig. 6.  
 1895 **Rhus meriani** Heer: Engelhardt, p. 115.  
 1895 **Rhus meriani** Heer: Keller, p. 328, pl. VI, fig. 5.  
 1896 **Rhus meriani** Heer: Keller, p. 322, pl. XI, figs. 5—7.  
 1897 **Rhus Meriani** Heer: Almera, p. 18.  
 1910 **Rhus Meriani** Heer: Brabenec, p. 238, text-fig. 150 a.  
 1922 **Rhus meriani** Heer: Engelhardt, p. 105, pl. XXXVI, fig. 15.  
 Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt). Miocene; Switzerland (Rhonen, St. Martin, Eriz, St. Gallen), Baden (Oeningen), Styria (Schonstein), Greece (Kumi, Euboea). Tertiary; Bohemia, Silesia. Pliocene; Barcelona.

**Rhus merrilli** Chaney.

- 1927 **Rhus merrilli** Chaney, p. 125, pl. XVI, figs. 1, 2.  
 1929a **Rhus merrilli** Chaney: Berry, p. 256, pl. LI, fig. 8.  
 Occurrence: Upper Oligocene; Oregon. Miocene; Washington.

[**Rhus metopiooides** Lesquereux (non Turczaninow)]

Synonym of **R. mensae** Cockerell, q. v.

**Rhus micromera** Saporta.

- 1865a **Rhus micromera** Saporta, p. 206, pl. XI, fig. 6.  
 1874 **Rhus micromera** Sap.: Schimper, p. 277.  
 1881 **Rhus micromera** Sap.: Engler, p. 415.  
 1930 **Rhus micromera** Sap.: Calmet, p. 188.  
 Occurrence: Oligocene; S. France (Armissan).

[**Rhus microphylla** Heer.]

[Non **R. microphylla** Engelmann

1852 in A. Gray, Pl. Wright, 1, p. 31.]

- 1871 **Rhus microphylla** Heer, p. 1184.  
 1872 **Rhus microphylla** Heer: Heer, p. 164.  
 1874 **Rhus microphylla** Heer: Heer, p. 117, pl. XXXII, fig. 18.  
 1882 **Rhus microphylla** Heer: Heer, p. 99.

1889 *Rhus microphylla* Heer: Velenovsky, p. 61.

1913 *Rhus microphylla* Heer: Stopes, p. 199.

Remarks: Referred to *Comptonia microphylla* by Berry, 1906, p. 508.

Occurrence: Cretaceous; Greenland, Bohemia.

### *Rhus milleri* Hollick.

1904 *Rhus milleri* Hollick, p. 485, figs. 1 c, d.

1909 *Rhus milleri* Hollick: Berry, p. 29, fig. 9.

1916a *Rhus milleri* Hollick: Berry, p. 64.

Occurrence: Miocene (Calvert Formation); U.S.A. (Maryland, Virginia).

### *Rhus minuta* Saporta.

1863a *Rhus minuta* Saporta, p. 95, pl. XI, fig. 2.

1874 *Rhus minuta* Sap.: Schimper, p. 274.

1881 *Rhus minuta* Sap.: Engler, p. 415.

Occurrence: Tertiary; S. France (St. Zacharie).

### *Rhus minutissima* Saporta.

1873 *Rhus minutissima* Saporta, p. 109, pl. XVI, fig. 5.

1874 *Rhus minutissima* Sap.: Schimper, p. 703.

Occurrence: Oligocene; France (Aix-en-Provence).

### *Rhus mixta* Lesquereux.

1878 *Rhus mixta* Lesquereux, p. 30, pl. IX, fig. 13.

1899 *Rhus mixta*? Lesq.: Knowlton, p. 731.

1911a *Rhus mixta* Lesq.: Knowlton, pp. 56, 62.

Occurrence: Miocene; U.S.A. (California, Yellowstone National Park).

### *Rhus munzenbergensis* Ettingshausen.

1860 *Rosa angustifolia* Ludwig, p. 142, pl. LIX, fig. 8.

1868 *Rhus munzenbergensis* Ettingshausen, p. 885.

1874 *Rhus munzenbergensis* Ett.: Schimper, p. 278.

1881 *Rhus munzenbergensis* Ett.: Engler, p. 415.

1881 *Rhus angustifolia* (Ludw.) non Linn.: Engler, p. 415.

Occurrence: Oligocene; Wetterau (Munzenberg).

### *Rhus myricaefolia* Lesquereux.

1878 *Rhus myricaefolia* Lesquereux, p. 31, pl. I, figs. 5—8.

1896 *Rhus myricaefolia* Lesq.: Knowlton in Lindgren, p. 890.

1911 *Rhus myricaefolia* Lesq.: Knowlton, p. 24.

1911a *Rhus myricaefolia* Lesq.: Knowlton, p. 62.

Occurrence: Miocene; U.S.A. (California).

### *Rhus myricoides* Knowlton.

1923 *Rhus myricoides* Knowlton, p. 168, pl. XXXVII, figs. 9—11.

1929 *Rhus myricoides* Knowl.: Brown, p. 287, pl. LXXIII, fig. 9.

Remarks: Knowlton states that this species is very close to *R. nigricans*. Cockerell (1925, p. 4) says that Knowlton's fig. 11 belongs to *R. variabilis*, and Brown (1929) transfers Knowlton's fig. 10, 11 to *R. variabilis*, retaining fig. 9 as the type of *R. myricoides*, which is said to be very like *R. coriarioides*. Lesq. But see also Brown (1934, p. 59), where this species is re-named *Rhus longepetiolata* (Lesq.).

Occurrence: Eocene (Green River); U.S.A. (Colorado).

### *Rhus napaeorum* Unger.

- 1848 *Rhus napaeorum* Unger, p. 509.  
 1849 *Rhus Napaeorum* Ung.: Brongniart, p. 122.  
 1850 *Rhus Napaeorum* Ung.: Unger, p. 474.  
 1860 *Rhus napaeorum* Ung.: Unger, p. 43, pl. XX, fig. 11.  
 1861 *Rhus Napaeorum* Ung.: Ettingshausen, p. 262.  
 1874 *Rhus Napaeorum* Ung.: Schimper, p. 271.  
 1881 *Rhus Napaeorum* Ung.: Engler, p. 414.

Occurrence: Miocene; Styria (Parschlug).

### [*Rhus nervosa* Newberry (non Ecklon & Zeyher)]

Synonym of *R. unitus* Knowl. & Cock., q. v.

### *Rhus nigricans* (Lesq.) Knowlton.

- 1872 *Myrica nigricans* Lesquereux, p. 6.  
 1878a *Myrica nigricans* Lesq.: Lesquereux, p. 132, pl. XVII, figs. 9-12.

- 1923 *Rhus nigricans* (Lesq.) Knowlton, p. 168.

Remarks: Stated to be close to *R. variabilis* and *R. myricoides*.

Occurrence: Eocene (Green River); U.S.A. (Wyoming).

### *Rhus nitida* Unger.

[Non *R. nitida* Engler, 1883 in D. C. Mon. Phan., IV, p. 434.]

- 1848 *Rhus nitida* Unger, p. 509.  
 1849 *Rhus nitida* Ung.: Brongniart, p. 122.  
 1850 *Rhus nitida* Ung.: Unger, p. 474.

Occurrence: Miocene; Styria (Parschlug).

### *Rhus noeggerathii* Weber.

- 1851 *Rhus noeggerathii* Weber, p. 403 (nomen nudum).  
 1852 *Rhus noeggerathii* Weber, p. 212, pl. XXIII, fig. 14.  
 [1853 *Rhus noeggerathii* Weber: Massalongo, p. 24.]  
 1861 *Rhus Noeggerathii* Web.: Ettingshausen, p. 261.  
 1874 *Rhus Noeggerathii* Webb.: Schimper, p. 279.  
 1881 *Rhus Noeggerathii* Web.: Engler, p. 415.  
 1902 *Rhus noeggerathii* Web.: Engelhardt, p. 294, pl. V, fig. 21.  
 1926 *Rhus noeggerathii* Web.: Wilckens, p. 38.

Remarks: Massalongo's *R. noeggerathii* is a synonym of *Juglans stygia* Visiani & Massalongo (1854, p. 121; 1858, p. 230).

Occurrence: Miocene; Rhineland.

[*Rhus obliqua* Al. Braun (**non** Thunberg, **non** Menzel)].

1851 *Rhus obliqua* Al. Braun MS: Stizenberger, p. 86.

1853 *Rhus obliqua* Al. Br.: Heer, p. 147.

Remarks: Nomen nudum.

Occurrence: Miocene; Baden (Oeningen).

*Rhus obliqua* Menzel (**non** Al. Braun).

[**Non** *R. obliqua* Thunberg, 1820, Fl. Cap., II, p. 224.]

1913 *Rhus obliqua* Menzel, p. 40, pl. IV, fig. 23.

Remarks: Fruit.

Occurrence: Miocene; Germany.

[*Rhus oblita* Saporta.]

See *R. blitum* Saporta.

*Rhus obovata* (Unger).

1866 *Echitonium obovatum* Unger, p. 18, pl. V, figs. 13, 14.

1870a *Rhus obovata* (Unger) Etttingshausen, p. 892.

1874 *Rhus obovata* (Unger): Schimper, p. 273.

1881 *Rhus obovata* (Unger): Engler, p. 414.

1885 *Rhus obovata* (Unger): Etttingshausen, p. 25, pl. XXXII, figs. 8, 8a.

Occurrence: Miocene; Carniola (Sagor), Croatia (Radoboj).

[*Rhus oeningensis* Unger.]

1849 *Rhus oeningensis* Unger, p. 351, pl. V, fig. 8.

1850 *Rhus oeningensis* Ung.: Unger, p. 475.

1853 *Rhus oeningensis* „Al. Br.“: Heer, p. 147.

Remarks: Transferred by Massalongo (1858, p. 770; 1859, p. 94) to *Drepanocarpus dacampii*. Wrongly stated by Unger to be from Oeningen.

Occurrence: Eocene; Italy (Mt. Bolca).

*Rhus oligocenica* Principi.

1921 *Rhus oligocenica* Principi, p. 90.

1926 *Rhus oligocenica* Prin.: Principi, p. 69, pl. VIII, figs. 6, 17; IX, fig. 13.

Occurrence: Oligocene; Italy (Chiavon).

*Rhus orbiculata* Heer.

1853 *Rhus orbicularis* Heer, p. 147 (nomen nudum).

1859 *Rhus orbiculata* Heer, p. 82, pl. CXXVII, fig. 9.

1861 *Rhus orbiculata* Heer: Etttingshausen, p. 260.

1867 *Rhus orbiculata* Heer: Stur, p. 183.

1874 *Rhus orbiculata* Heer: Schimper, p. 281.

1881 *Rhus orbiculata* Heer: Engler, p. 416.

1888 *Rhus orbiculata* Heer: Schenk, pp. 539, 541, fig. 309<sup>4</sup>.

1896 *Rhus orbiculata* Heer: Keller, p. 321, pl. VIII, fig. 6.

Remarks: Very probably related to *Cotinus*, according to Heer, Engler, and Schenk.

Occurrence: Miocene; Switzerland (Albis, St. Gallen), Austria.

### ***Rhus palaeocotinus* Saporta.**

1865a *Rhus palaeocotinus* Saporta, p. 208, pl. XII, fig. 7.

1874 *Rhus palaeocotinus* Sap.: Schimper, p. 280.

1881 *Rhus palaeocotinus* Sap.: Engler, p. 416.

1888 *Rhus palaeocotinus* Sap.: Schenk, pp. 541—42.

1893 *Rhus palaeocotinus* Sap.: Saporta, p. XVI.

1930 *Rhus palaeocotinus* „Engel“: Calmet, p. 189.

Remarks: Comparable according to Engler with *Cotinus* or *Anaphrenium*.

Occurrence: Oligocene; S. France (Armissan).

### ***Rhus palaeophylla* Saporta.**

1861 *Rhus palaeophyllum* Saporta, p. 148.

1862a *Rhus palaeophylla* Sap.: Saporta, p. 278, pl. XIII, fig. 1.

1873 *Rhus palaeophylla* Sap.: Saporta, p. 108.

1874 *Rhus palaeophylla* Sap.: Schimper, p. 270.

1881 *Rhus palaeophylla* Sap.: Engler, p. 414.

1890 *Rhus palaeophylla* Sap.: Schenk, p. 838.

Remarks: Compared with *Cotinus* by Schenk.

Occurrence: Oligocene; S. France (Armissan).

### ***Rhus palaeoradicans* Stur.**

1867 *Rhus palaeoradicans* Stur, p. 183, pl. V, fig. 13.

Occurrence: Miocene; Austria (Jastraba).

### ***Rhus paucidentata* Laurent.**

1899 *Rhus paucidentata* Laurent, p. 135, pl. XIV, fig. 7.

Occurrence: Oligocene; France (Oélas).

### ***Rhus paulliniaefolia* Ettingshausen.**

1854 *Rhus paulliniaefolia* Ettingshausen, p. 812, pl. II, fig. 10.

1856a *Rhus paulliniaefolia* Ett.: Kovats, p. 41.

1867 *Rhus paulliniaefolia* Ett.: Stur, p. 183.

1874 *Rhus paulliniaefolia* Ett.: Schimper, p. 273.

1881 *Rhus paulliniaefolia* Ett.: Engler, p. 414.

Occurrence: Miocene; Hungary (Tallya).

### ***Rhus payettensis* Knowlton.**

1898 *Rhus payettensis* Knowlton, p. 733, pl. CI, figs. 6, 7.

Occurrence: Miocene (Payette); U.S.A. (Idaho).

### ***Rhus pistacina* Saporta.**

1865a *Rhus pistacina* Saporta, p. 207, pl. XIII, fig. 4.

1874 *Rhus* (?) *pistacina* Sap.: Schimper, p. 280.

1881 *Rhus pistacina* Sap.: Engler, p. 416.

1930 *Rhus pistacina* Sap.: Calmet, p. 188.

Occurrence: Oligocene; S. France (Armissan).

### *Rhus pluriloba* Boulay.

1887 *Rhus pluriloba* Boulay, p. 272.

1910 *Rhus pluriloba* Boul.: Lauby, p. 372.

Occurrence: Miocene; France (Charay, Ardèche).

### *Rhus powelliana* Lesquereux.

1892 *Rhus powelliana* Lesquereux, p. 155, pl. LVI, figs. 4, 5.

1913 *Rhus powelliana* Lesq.: Stopes, p. 199.

Occurrence: Cretaceous (Dakota); U.S.A. (Kansas).

### *Rhus praeovata* Chaney.

1927 *Rhus praeovata* Chaney, p. 126, pl. XV, figs. 8, 9.

Occurrence: Upper Oligocene; U.S.A. (Oregon).

### [*Rhus primaeva* Massalongo.]

1859 *Rhus primaeva* Massalongo, p. 103.

1893 *Rhus primaeva* Mass.: Meschinelli & Squinabol, p. 347.

Remarks: Nomen nudum.

Occurrence: Oligocene; Italy (Chiavon).

### *Rhus prisca* Ettingshausen.

1853 *Rhus prisca* Ettingshausen, p. 79, pl. XXVI, figs. 13—23.

1854 *Rhus prisca* Ett.: Ettingshausen, p. 812.

1856 *Rhus prisca* Ett.: Gaudin & La Harpe, p. 365.

1856 *Rhus prisca* Ett.: Kovats, p. 7.

1858 *Rhus prisca* Ett.: Ettingshausen, p. 539.

1859 *Rhus prisca* Ett.: Heer, p. 83, pl. CXXVII, figs. 10—12.

1861 *Rhus prisca* Ett.: Ettingshausen, p. 261.

1863a *Rhus prisca* Ett.: Saporta, p. 96.

1865 *Rhus prisca* Ett.: Saporta, p. 133.

1865a *Rhus prisca* Ett.: Saporta, p. 204.

1869 *Rhus prisca* Ett.: Ettingshausen, p. 50, pl. LI, fig. 11; LII, fig. 6.

1870 *Rhus prisca* Ett.: Württenberger, p. 577.

1874 *Rhus prisca* Ett.: Schimper, p. 274.

1880 *Rhus prisca* Ett.: Ettingshausen, p. 235.

1881 *Rhus prisca* Ett.: Engler, p. 415.

1883 *Rhus prisca* Ett.: Probst, p. 229.

1885 *Rhus prisca* Ett.: Engelhardt, p. 364, pl. XXIII, figs. 9—12.

1885 *Rhus prisca* Ett.: Ettingshausen, p. 25.

1888 *Rhus prisca* Ett.: Ettingshausen, p. 354, pl. IX, fig. 41.

1888 *Rhus prisca* Ett.: Schenk, p. 539, figs. 309<sup>2</sup>, 3.

1891 *Rhus prisca* Ett.: Engelhardt, p. 38.

1900 *Rhus prisca* Ett.: Peola, p. 245.

1902a *Rhus prisca* Ett.: Engelhardt, p. 179, pl. XIV, figs. 13, 15, 16.

1902 *Rhus prisca* Ett.: Dreger, p. 97.

1910 *Rhus prisca* Ett.: Brabenec, p. 242, text-fig. 150 b.

1911 *Rhus prisca* Ett.: Engelhardt, p. 390, pl. XLII, figs. 26, 28.

- 1911 *Rhus prisca* Ett.: Kafka, p. 70.  
 1912 *Rhus prisca* Ett.: Engelhardt, p. 521, pl. I, figs. 12, 13.  
 1929 *Rhus prisca* Ett.: Scheid, p. 81, pl. XXVII, fig. 6.  
 1931 *Rhus prisca* Ett.: Kirchheimer, p. 116.

Occurrence: Eocene; England (Alum Bay)?, Oligocene and Miocene; Bohemia (Bilin Basin), Austria (Häring), Hungary (Erdőbénye, Tokay). Styria (Leoben, Schega, Stranitzen, Sotzka), Carniola (Sagor), Germany (Klettgau, Flörsheim, Lauterbach), France (St. Zacharie, Narbonne, Peyriac), Switzerland (Monod, Horw, Lausanne).

### *Rhus pseudo-meriani* Lesquereux.

- 1878a *Rhus pseudo-meriani* Lesquereux, p. 293, pl. LVIII, fig. 11.  
 1913 *Rhus pseudo-meriani* Lesq.: Stopes, p. 199.

Remarks: We consider that this leaf-fragment, referred to *Quercus doljensis* Pilar by Knowlton (1898, p. 191; 1919, p. 525) bears little resemblance to the leaves figured by Ward (1886, pl. XXXVI, figs. 9, 10) as *Q. doljensis* and is even less comparable with the original figured by Pilar (1883, pl. VII, fig. 14).

Occurrence: Tertiary; U.S.A. (Wyoming).

### [*Rhus pteleaefolia* Weber.]

- 1851 *Rhus pteleaefolia* Weber, p. 403 (nomen nudum).  
 1852 *Rhus pteleaefolia* Weber, p. 213, pl. XXIII, fig. 13.  
 1855 *Rhus pteleaefolia* Web.: Wessel & Weber, p. 156, pl. XXVIII, fig. 7.  
 1858 *Rhus pteleaefolia* Web.: Ludwig, p. 149, pl. XXX, fig. 4.  
 1859 *Rhus pteleaefolia* Web.: Massalongo, p. 104.  
 1860 *Rhus pteleaefolia* Web.: Ludwig, p. 140, pl. LIV, fig. 18.  
 1867 *Rhus pteleaefolia* „Wess & Web.“: Molon, p. 90.  
 1880 *Rhus pteleaefolia* Web.: Engelhardt, p. 113.

Remarks: Heer (1859, p. 64) transferred this species to *Dodonaea*. For further references under this name see Foss. Cat. pars 14, Sapindaceae, p. 32.

According to Ettingshausen (1868) the specimen figured by Ludwig (1860) belongs to *R. deleta*.

### [*Rhus punctatum* Al. Braun.]

- 1845 *Rhus punctatum* Al. Braun, p. 172.  
 1845 *Rhus punctatum* A. Br.: Unger, p. 242.  
 1849 *Rhus punctatum* A. Br.: Brongniart, p. 122.  
 1850 *Rhus punctatum* A. Br.: Unger, p. 475.  
 1850 *Rhus punctatum* A. Br.: Bruckmann, p. 233.  
 1851 *Ulmus punctata* (A. Br.) Al. Braun in Stizenberger, p. 80.  
 1856 *Ulmus punctata* (A. Br.): Heer, p. 60, pl. LXXIX, fig. 23.

Remarks: Heer points out that this leaf cannot be a *Rhus*, in spite of some general resemblance.

### *Rhus pyrrhae* Unger.

- 1845 *Rhus pyrrhae* Unger, p. 242.  
 1847 *Rhus pyrrhae* Ung.: Unger, p. 84, pl. XXII, fig. 1.  
 1850 *Rhus Pyrrhae* Ung.: Unger, p. 473.  
 1850 *Rhus pyrrhae* Ung.: Bruckmann, p. 233.  
 1851 *Rhus pyrrhae* Ung.: Stizenberger, p. 86.

- 1851 *Rhus pyrrhae* Ung.: Weber, p. 404.  
 1852 *Rhus pyrrhae* Ung.: Weber, p. 214.  
 1852 *Paullinia vivianica* Massalongo, p. 21, pl. VI, figs. 23, 24.  
 1852 *Paullinia mareschiniana* Massalongo, p. 22, pl. VI, fig. 25.  
 1853 *Rhus pyrrhae* Ung.: Heer, p. 147.  
 1855 *Rhus pyrrhae* Ung.: Wessel & Weber, p. 156, pl. XXVIII, fig. 6.  
 1859 *Rhus Pyrrhae* Ung.: Heer, pp. 84, 283, pl. CXXXVI, figs. 20—28.  
 1859 *Paullinia vivianica* Mass.: Massalongo, p. 94.  
 1859 *Paullinia mareschiniana* Mass.: Massalongo, p. 95.  
 1861 *Rhus Pyrrhae* Ung.: Ettingshausen, p. 262.  
 1867 *Rhus pyrrhae* Ung.: Molon, p. 90.  
 1867 *Rhus pyrrhae* Ung.: Stur, p. 183.  
 1868a *Rhus Pyrrhae* Ung.: Heer, p. 175.  
 1870 *Rhus pyrrhae* Ung.: Württenberger, p. 577.  
 1874 *Rhus Pyrrhae* Ung.: Schimper, p. 273.  
 1881 *Rhus Pyrrhae* Ung.: Engler, p. 414.  
 1883 *Rhus pyrrhae* Ung.: Probst, p. 228.  
 1884 *Rhus pyrrhae* Ung.: Engelhardt, p. 148.  
 1885 *Rhus pyrrhae* Ung.: Engelhardt, p. 364, pl. XXIII, figs. 25, 27; XXIV, figs. 18, 19.  
 1888 *Rhus Pyrrhae* Ung.: Schenk, p. 544, fig. 310<sup>2</sup>.  
 1892 *Rhus pyrrhae* Ung.: Keller, p. 114, pl. I, fig. 5.  
 1892 *Rhus pyrrhae* Ung.: Engelhardt, p. 39.  
 1893 *Paullinia vivianica* Mass.: Meschinelli & Squinabol, p. 359.  
 1893 *Paullinia maraschiniana* Mass.: Meschinelli & Squinabol, p. 359.  
 1893 *Rhus pyrrhae* Ung.: Engelhardt, p. 39.  
 1898 *Rhus pyrrhae* Ung.: Engelhardt, p. 111.  
 1900a *Rhus pyrrhae* Ung.: Peola, p. 52.  
 1902 *Rhus pyrrhae* Ung.: Laurent, p. 198, pl. II, fig. 23.  
 1902 *Rhus pyrrhae* Ung.: Engelhardt, p. 294, pl. III, fig. 24.  
 1910 *Rhus Pyrrhae* Ung.: Brabenec, p. 239.  
 1914 *Rhus pyrrhae* Ung.: Engelhardt, p. 309, pl. V, fig. 5.  
 1916 *Rhus cf. pyrrhae* Ung.: Sangiorgi, p. 292, pl. XV, fig. 17.  
 1921 *Rhus pyrrhae* Ung.: Principi, p. 91.  
 1926 *Rhus pyrrhae* Ung.: Wilckens, p. 38.  
 1926 *Rhus pyrrhae* Ung.: Principi, p. 68, pl. VI, fig. 23; VII, fig. 19; VIII, fig. 3.

Remarks: Compared with the living *R. aromatica* Ait. of N. America. *Paullinia maraschiniana* and *P. vivianica* were referred to *Rhus pyrrhae* by Principi (1926, p. 69), following a suggestion of Heer's (1859, p. 283, 1861, p. 95; Molon, 1867, p. 84, footnote).

Occurrence: Oligocene and Miocene; Baden (Oeningen), Germany (Hessen, Klettgau, Biberach), Rhineland, Bohemia, Switzerland (Eriz), Italy (Chiavon, Salcedo, Piemonte), France, Styria (Parschlug), Croatia (Radoboj), Galicia. Pliocene; Italy (Imola).

### *Rhus quercifolia* Goeppert.

[Non *R. quercifolia* Steudel, 1821, Nom. ed. 1, p. 689  
 (= *R. toxicodendron*)].

- 1855 *Rhus quercifolia* Goeppert, p. 37, pl. XXV, figs. 6—9.  
 1855 *Rhus aegopodiifolia* Goeppert, p. 37, pl. XXV, fig. 10.  
 1861 *Rhus quercifolia* Goepp.: Ettingshausen, p. 262.  
 1861 *Rhus aegopodiifolia* Goepp.: Ettingshausen, p. 262.  
 1870 *Rhus quercifolia* Goepp.: Engelhardt, p. 23, pl. V, fig. 19.  
 1874 *Rhus quercifolia* Goepp.: Schimper, p. 273.  
 1881 *Rhus quercifolia* Goepp.: Engler, p. 414.

- 1891a *Rhus quercifolia* Goepp.: Engelhardt, p. 193, pl. XVIII, fig. 23.  
 1908 *Rhus quercifolia* Goepp.: Engelhardt & Kinkel, p. 267, pl. XXXIV, fig. 20.  
 1910 *Rhus quercifolia* Goepp.: Brabenec, p. 240.  
 1914 *Rhus quercifolia* Goepp.: Kryštofovich, p. 594, pl. fig. 11.  
 1919 *Rhus quercifolia* Goepp.: Kräusel, p. 171, pl. XV, fig. 8; XVI, fig. 17; XVII, fig. 1; XXV, fig. 3; XXVI, figs. 9, 15; text-fig. 18.  
 1921 *Rhus quercifolia* Goepp.: Kräusel, p. 410, pl. XIV, figs. 1, 2.

Remarks: Schimper and others include *R. aegopodiifolia* in *R. quercifolia*.

Occurrence: Tertiary; Bohemia, Silesia (Kokoschutz, Schosnitz, Peruschen), S. Russia. Upper Pliocene; Germany (Klarbecken).

### [*Rhus reddita* Saporta.]

Synonym of *Pistacia reddita* (Saporta), q. v.

### *Rhus redditiformis* Berry.

- 1912 *Rhus redditiformis* Berry, p. 397, pl. XXXI, fig. 2.  
 1922 *Rhus redditiformis* Berry: Berry, p. 169, pl. XXXVII, fig. 2.

Remarks: Berry says that this species bears a striking resemblance to Saporta's *R. reddita* from Aix and was named accordingly.

Occurrence: Cretaceous (Woodbine); U.S.A. (Texas).

### *Rhus retine* Unger.

- 1850 *Rhus retine* Unger, p. 475.  
 1860 *Rhus retine* Ung.: Unger, p. 43, pl. XX, fig. 10.  
 1861 *Rhus retine* Ung.: Ettingshausen, p. 262.  
 1874 *Rhus Retine* Ung.: Schimper, p. 276.  
 1881 *Rhus Retine* Ung.: Engler, p. 415.  
 1901 *Rhus Retine* Ung.: Squinabol, p. 51.

Occurrence: Eocene; Italy (Novale). Miocene; Styria (Paraschlug).

### [*Rhus rhadamanti* Unger.]

- 1845 *Rhus rhadamanti* Unger, p. 242.  
 1847 *Rhus rhadamanti* Ung.: Unger, p. 88, pl. XXIII, fig. 1.  
 1850 *Rhus Rhadamanti* Ung.: Unger, p. 173.  
 1870a *Woodwardia Rhadamanti* (Unger) Ettingshausen, p. 870, pl. I, fig. 2.

Remarks: Identified by Ettingshausen as a fern, and transferred to *Woodwardia*.

Occurrence: Miocene; Croatia (Radoboj).

### *Rhus rhomboidalis* Saporta.

- 1861 *Rhus rhomboidalis* Saporta, p. 148.  
 1862b *Rhus rhomboidalis* Sap.: Saporta, p. 278, pl. XIII, fig. 3.  
 1873 *Rhus rhomboidalis* Sap.: Saporta, p. 108, pl. XVI, figs. 2, 3.  
 1874 *Rhus rhomboidalis* Sap.: Schimper, p. 270.  
 1881 *Rhus rhomboidalis* Sap.: Engler, p. 414.  
 1893 *Rhus rhomboidalis* Sap.: Saporta, p. XIV.

Occurrence: Oligocene; France (Aix-en-Provence).

[*Rhus rosaefolia* Lesquereux.]

[Non *R. rosaefolia* Hoffmannsegg, 1826,  
Verz. Pfl. Nachh. II, p. 199.]

1878a *Rhus rosaefolia* Lesquereux, p. 293, pl. XLII, figs. 7—9.

1883 *Rhus rosaefolia* Lesq.: Lesquereux, p. 196.

1895 *Rhus rosaefolia* Lesq.: Dawson, G. M., p. 231 B.

1908 *Rhus rosaefolia* Lesq.: Penhallow, pp. 85, 106.

Remarks: Referred to *Weinmannia dubiosa* by Cockerell (1908, p. 94).

Occurrence: Eocene; British Columbia. Miocene; U.S.A. (Colorado, Florissant).

*Rhus rotundifolia* Kirchner.

1898 *Rhus rotundifolia* Kirchner, p. 184, pl. XII, fig. 2.

Remarks: Referred to *Hydrangea ? florissantia* by Cockerell (1908a, p. 541).

Occurrence: Miocene; U.S.A. (Colorado, Florissant).

*Rhus sagoriana* Ettingshausen.

1877 *Rhus sagoriana* Ettingshausen, p. 200, pl. XVIII, figs. 1—5, 8—14, 16—19.

1881 *Rhus sagoriana* Ett.: Engler, p. 415.

1885 *Rhus sagoriana* Ett.: Ettingshausen, p. 25, pl. XXXII, fig. 10.

1903 *Rhus sagoriana* Ett.: Menzel, p. 17.

1910 *Rhus sagoriana* Ett.: Engelhardt, p. 159, pl. II, fig. 47.

1910a *Rhus sagoriana* Ett.: Engelhardt, p. 679, pl. II, figs. 9, 11, 17.

1911 *Rhus sagoriana* Ett.: Engelhardt, p. 390, pl. XLII, figs. 27, 30.

1911 *Rhus sagoriana* Ett.: Kafka, p. 42.

1912a *Rhus sagoriana* Ett.: Engelhardt, p. 624, pl. XXXIII, fig. 47.

1933 *Rhus sagoriana* Ett.: Gothan & Sapper, p. 22, pl. V, figs. 5, 6.

Occurrence: Oligocene and Miocene; Bohemia (Preschen), Bosnia, Germany (Flörsheim), Carniola (Sagor), Greece (Kumi, Euboea).

*Rhus salicifolia* Menzel.

[Non *R. salicifolia* Presl., 1844,

Bot. Bemerk., p. 42 (= *Anaphrenium abyssinicum*)].

1906 *Rhus salicifolia* Menzel, p. 87, pl. V, fig. 11.

Occurrence: ? Miocene; Germany (Zschipkau).

*Rhus sambiensis* Heer.

1869a *Rhus sambiensis* Heer, p. 47, pl. X, fig. 16.

1874 *Rhus sambiensis* Heer: Schimper, p. 277.

1881 *Rhus sambiensis* Heer: Engler, p. 415.

Occurrence: Miocene; Samland.

*Rhus saportana* Pilar.

1883 *Rhus saportana* Pilar, p. 114, pl. XIII, fig. 20; XV, figs. 6, 32.

1903 *Rhus saportana* Pilar: Menzel, p. 17.

- 1910 *Rhus Saportana* Pilar: Brabenec, p. 242.  
 1911 *Rhus saportana* Pilar: Kafka, p. 62.  
 1922 *Rhus saportana* Pilar: Engelhardt, p. 104, pl. XXXVI, fig. 14.  
 Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt). Oligocene; Bohemia. Miocene; Croatia (Sused).

[*Rhus scheuchzeri* Al. Braun.]

- 1851 *Rhus scheuchzeri* Al. Braun MS.: Stizenberger, p. 86.  
 1853 *Rhus scheuchzeri* Al. Br.: Heer, p. 147.  
 Remarks: Transferred to *Frazinus* by Heer (1859, p. 23, pl. CIV, fig. 11).  
 Occurrence: Miocene; Baden (Oeningen).

*Rhus stizenbergeri* Heer.

- 1859 *Rhus Stizenbergeri* Heer, p. 84, pl. CXXXVII, figs. 1, 2.  
 1861 *Rhus Stizenbergeri* Heer: Ettingshausen, p. 262.  
 1874 *Rhus Stizenbergeri* Heer: Schimper, p. 272.  
 1881 *Rhus Stizenbergeri* Heer: Engler, p. 414.  
 1883 *Rhus stizenbergeri* Heer: Probst, p. 228.  
 Occurrence: Miocene; Baden (Oeningen).

*Rhus stygia* Unger.

- 1845 *Rhus stygia* Unger, p. 242.  
 1847 *Rhus stygia* Unger: Unger, p. 86, pl. XXII, figs. 3—5.  
 1850 *Rhus stygia* Ung.: Unger, p. 473.  
 [1851 *Rhus stygia* Ung.: Massalongo, p. 200.]  
 1853 *Rhus stygia* Ung.: Ettingshausen, p. 79, pl. XXVI, figs. 40-42.  
 1853 *Rhus stygia* Ung.: Heer, p. 147.  
 1861 *Rhus stygia* Ung.: Ettingshausen, p. 261.  
 1869 *Rhus stygia* Ung.: Unger, p. 149, pl. II, fig. 28.  
 1874 *Rhus stygia* Ung.: Schimper, p. 275.  
 1877 *Rhus stygia* Ung.: Ettingshausen, p. 200, pl. XVIII, figs. 6, 7.  
 1881 *Rhus stygia* Ung.: Engler, p. 415.  
 1898 *Rhus stygia* Ung.: Engelhardt, p. 111, pl. XI, fig. 3.  
 1910 *Rhus stygia* Ung.: Brabenec, p. 239.  
 1910 *Rhus stygia* Ung.: Engelhardt, p. 163, pl. III, fig. 20.  
 1912 *Rhus stygia* Ung.: Engelhardt, p. 629, pl. XXXIV, fig. 20.  
 1922 *Rhus stygia* Ung.: Pax, p. 312.

Remarks: The specimens described by Massalongo (1851) from Chiavon were afterwards transferred to *Juglans* (Visiani & Massalongo, 1858, p. 230).

Occurrence: Oligocene and Miocene; Bohemia, Croatia (Radoboj), Carniola (Sagor), Austria (Häring), Rhineland, Bosnia (Modra). Tertiary; Macedonia.

*Rhus subrhomboidalis* Lesquereux.

- 1883 *Rhus subrhomboidalis* Lesquereux, p. 195, pl. XL, figs. 16—19.  
 Occurrence: Miocene; U.S.A. (Colorado, Florissant).

*Rhus succedanea* Linn.

- 1920 *Rhus succedanea* Linn.: Florin, p. 22, pl. III, fig. 13.  
 Occurrence: Late Tertiary; Japan.

**Rhus ternata** Engelhardt.

1922 **Rhus ternata** Engelhardt, p. 104, pl. XXXVI, fig. 16.

Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt).

**Rhus tenuifolia** Ettingshausen.

1870 **Rhus tenuifolia** Ettingshausen, p. 90, pl. VI, fig. 6.

1874 **Rhus tenuifolia** Ett.: Schimper, p. 278.

1881 **Rhus tenuifolia** Ett.: Engler, p. 415.

1888 **Rhus tenuifolia** Ett.: Ettingshausen, p. 355.

Occurrence: Miocene; Styria (Leoben).

**Rhus thomasi** Heer.

1869a **Rhus thomasi** Heer, p. 46, pl. X, fig. 13.

1874 **Rhus thomasi** Heer: Schimper, p. 277.

Occurrence: Miocene; Baltic region (Kraxtepillen).

**Rhus toxicodendroides** Pilar.

1883 **Rhus toxicodendroides** Pilar, p. 115, pl. XIII, fig. 1.

Occurrence: Miocene; Croatia (Dolje).

**Rhus trifolioides** Lesquereux.

1883 **Rhus trifolioides** Lesquereux, p. 196.

1908 **Rhus trifolioides** Lesq.: Cockerell, p. 99.

1916 **Rhus ? trifolioides** Lesq.: Knowlton, p. 279.

Remarks: Knowlton evidently intended to figure the type specimen, but omitted to do so. A doubtful generic reference.

Occurrence: Miocene; U.S.A. (Colorado, Florissant).

**Rhus triphylla** Unger.

[Non **R. triphylla** Medicus, 1799, Pfl. Anat., p. 106.]

1848 **Rhus triphylla** Unger, p. 509.

1849 **Rhus triphylla** Ung.: Brongniart, p. 122.

1850 **Rhus triphylla** Ung.: Unger, p. 474.

1860 **Rhus triphylla** Ung.: Unger, p. 44, pl. XX, fig. 13.

1861 **Rhus triphylla** Ung.: Ettingshausen, p. 262.

1874 **Rhus triphylla** Ung.: Schimper, p. 271.

1881 **Rhus triphylla** Ung.: Engler, p. 414.

1885 **Rhus triphylla** Ung.: Engelhardt, p. 364, pl. XXIII, fig. 20.

1910 **Rhus triphylla** Ung.: Brabenec, p. 239.

Occurrence: Oligocene; Bohemia. Miocene; Styria (Parschlug).

**Rhus typhinoides** Lesquereux.

1878 **Rhus typhinoides** Lesquereux, p. 29, pl. IX, figs. 1—6.

1911 **Rhus typhinoides** Lesq.: Knowlton, p. 24.

1911a **Rhus typhinoides** Lesq.: Knowlton, p. 62.

1920 **Rhus typhinoides** Lesq.: Chaney, p. 177.

1926 **Rhus typhinoides** Lesq.: Knowlton, p. 45, pl. XXVII, fig. 5.

Occurrence: Oligocene; U.S.A. (Oregon). Miocene; U.S.A. (California, Washington).

**[Rhus uddeni Lesquereux.]**

1892 **Rhus uddeni** Lesquereux, p. 154, pl. LVII, fig. 2.

1895 **Rhus uddeni** Lesq.: Knowlton, p. 213.

1913 **Rhus uddeni** Lesq.: Stopes, p. 199.

1919 **Rhus uddeni** Lesq.: Knowlton, p. 553.

Remarks: Transferred by Berry to *Sapindopsis magnifolia* Fontaine. See Foss. Cat., pars 14, p. 49.

Occurrence: Cretaceous; U.S.A. (Kansas).

**Rhus unitus Knowlton & Cockerell.**

1868 **Rhus nervosa** Newberry, p. 53.

1874 **Rhus nervosa** Newb.: Schimper, p. 280.

1881 **Rhus nervosa** Newb.: Engler, p. 415.

1898 **Rhus** (?) **nervosa** Newb.: Newberry, p. 114, pl. XXXIII, figs. 5, 6.

1919 **Rhus unitus** Knowlton & Cockerell, p. 553.

Remarks: *Non R. nervosa* Ecklon & Zeyher, 1834.

Occurrence: Eocene; U.S.A. (Dakota).

**Rhus variabilis (Newberry) Knowlton.**

1898 **Planera variabilis** Newberry, p. 83, pl. LXVI, fig. 7 (only).

1923 **Rhus variabilis** (Newberry) Knowlton, p. 167.

1923 **Rhus myricoides** Knowlton, p. 168, figs. 10, 11 only (teste Brown, 1929).

1925 **Rhus variabilis** (Newb.): Cockerell, p. 4.

1929 **Rhus variabilis** (Newb.): Brown, p. 287.

Remarks: Knowlton states that the remaining figures of Newberry's *Planera variabilis* belong to *P. inaequilateralis*. Brown includes in *R. variabilis* two of Knowlton's figures of *R. myricoides*. Knowlton also says that *R. nigricans* is very similar. For additional references see Brown, 1934, p. 59.

Occurrence: Eocene (Green River); U.S.A. (Wyoming, Colorado).

**[Rhus vexans Lesquereux.]**

Synonym of **Schmaltzia vexans** (Lesq.), q. v.

**Rhus viburnoides Knowlton.**

1917 **Rhus** ? **viburnoides** Knowlton, p. 328, pl. XXVIII, fig. 5.

Occurrence: Tertiary (Raton); U.S.A. (Colorado).

**Rhus westii Knowlton.**

1892 **Rhus** ? **westii** Knowlton in Lesquereux, p. 154, pl. XXXVIII, figs. 9, 10.

1913 **Rhus westii** Knowl.: Stopes, p. 199.

Occurrence: Cretaceous; U.S.A. (Kansas).

**Rhus winchellii Lesquereux.**

1883 **Rhus winchellii** Lesquereux, p. 236.

Occurrence: Eocene; U.S.A. (S. Dakota).

[*Rhus xanthoxyloides* Massalongo.]

- 1859 *Rhus xanthoxyloides* Massalongo, p. 104.  
 1893 *Rhus xanthoxyloides* Mass.: Meschinelli & Squinabol, p. 347.  
 Remarks: Nomen nudum.  
 Occurrence: Oligocene; Italy (Chiavon).

*Rhus zanthoxyloides* Unger.

- 1848 *Rhus zanthoxyloides* Unger, p. 509.  
 1849 *Rhus zanthoxyloides* Ung.: Brongniart, p. 122.  
 1850 *Rhus zanthoxyloides* Ung.: Unger, p. 474.  
 1860 *Rhus zanthoxyloides* Ung.: Unger, p. 45, pl. XXI, fig. 13.  
 1861 *Rhus zanthoxyloides* Ung.: Ettingshausen, p. 262.  
 1869 *Rhus zanthoxyloides* Ung.: Unger, p. 149, pl. II, figs. 26, 27.  
 1874 *Rhus zanthoxyloides* Ung.: Schimper, p. 276.  
 1881 *Rhus zanthoxyloides* Ung.: Engler, p. 415.  
 1883 *Rhus zanthoxyloides* Ung.: Pilar, p. 115, pl. XV, figs. 7, 20.  
 Occurrence: Miocene; Styria (Parschlug), Croatia (Radoboj, Dolje, Nedelja).

*Rhus* sp.

- 1845 *Rhus*?: Al. Braun, p. 172.  
 Occurrence: Miocene; Baden (Oeningen).  
 1853 *Rhus* 2 spp.: Heer, p. 42.  
 Occurrence: Tertiary; Germany (Breslau).  
 1860 *Rhus*: Saporta, p. 512.  
 Occurrence: Oligocene; France (Provence).  
 Remarks: „Très voisin du *Cotinus*“.  
 1878 *Rhus*?: Saporta, p. 49.  
 Occurrence: Tertiary; France (Brives).  
 1883 *Rhus* sp.: Dawson, p. 34.  
 Remarks: Allied to *R. rosaefolia* Lesq. according to Dawson.  
 Occurrence: Cretaceous; British Columbia.  
 1896 *Rhus* n. sp.: Lindgren & Knowlton, p. 890.  
 Occurrence: ?Miocene; U.S.A. (S. Nevada).  
 1897 *Rhus* sp.: Almera, p. 18.  
 Occurrence: Pliocene; Barcelona.  
 1897 *Rhus* (?) n. sp.: Stanton & Knowlton, p. 133.  
 Occurrence: Eocene; U.S.A. (Wyoming).  
 1898 *Rhus* sp.: Menzel, p. 17.  
 Remarks: Fruit.  
 Occurrence: Oligocene; Bohemia (Kundratitz).  
 1899 *Rhus*: Laurent, p. 136, pl. XIV, fig. 9.  
 Occurrence: Oligocene; France (Oélas).  
 1888 *Rhus* ? sp.: Lesquereux, p. 15.  
 1902 *Rhus* ? sp.: Knowlton, p. 70, pl. XIV, fig. 6.  
 Occurrence: Miocene; U.S.A. (Oregon, John Day Basin).

- 1906 *Rhus* sp.: Menzel, p. 91, pl. IX, fig. 16.  
Occurrence: ? Miocene; Germany (Rauno).
- 1910 *Rhus* sp.: Brabenec, p. 241.  
Occurrence: Tertiary; Czechoslovakia (Kundratitz).
- 1910 *Rhus*: Laurent, p. 618.  
Occurrence: Mio-Pliocene; Tonkin.
- 1914 *Rhus*: Knowlton, p. 36.  
Occurrence: Eocene; U.S.A. (Oregon).
- 1920 *Rhus* sp.: Reid, E. M., p. 130.  
Remarks: „Possibly an unripe fruit of *R. cotinoides*“.  
Occurrence: Middle Pliocene; England (Castle Eden).
- 1924 *Rhus* sp.: Chaney, p. 131.  
Occurrence: Miocene; U.S.A. (Oregon).
- 1930 *Rhus* sp.: Dorf, p. 100, pl. XII, fig. 4.  
Occurrence: Pliocene; U.S.A. (California).
- 1888 *Rhus*: Gardner, p. 419 (footnote).
- 1926 *Dicotylophyllum* sp. 2: Reid & Chandler, p. 154, pl. X, figs. 13, 14.  
Remarks: According to Reid & Chandler, this is certainly not a *Rhus*.  
Occurrence: Oligocene (Bembridge Limestone); I. of Wight.

[cf. *Rhus*.]

- 1888 *Sapindiphyllum dubium* Nathorst, p. 212, pl. XXII, fig. 5.  
Remarks: A dubious fragment, compared with various genera, including *Rhus*.  
Occurrence: Miocene; Japan.

**Schinopsis** Engler.**Schinopsis patagonica** Berry.

- 1925a *Schinopsis patagonica* Berry, p. 206, pl. I, fig. 2.  
Occurrence: Miocene; Patagonia.

**Schinus** Linnaeus.**Schinus deperditus** Saporta.

- 1863a *Schinus deperditus* Saporta, p. 25, pl. II, fig. 8.
- 1888 *Schinus deperditus* Sap.: Schenk, p. 541.  
Remarks: Venation similar to that of *Anaphrenium*, but not comparable with *Schinus*, according to Schenk.  
Occurrence: Tertiary; S. France (Gargas).

[**Schinus primaevum** Caspary.]

Synonym of **Rhamnacinium primaevum**.

See Foss. Cat., pars 17, p. 69.

**Schmaltzia** Desveaux.**Schmaltzia vexans** (Lesquereux).

1883 *Rhus vexans* Lesquereux, p. 195, pl. XLI, fig. 20.

1906 *Schmaltzia vexans* (Lesq.): Ockerell, p. 12.

1929 *Schmaltzia vexans* (Lesq.): Brown, p. 288.

Occurrence: Eocene (Green River) and Miocene; U.S.A. (Colorado).

**Semecarpites** Fritel, 1913, p. 643.**Semecarpites linearifolius** Fritel.

1913 *Semecarpites linearifolius* Fritel, p. 643, pl. XXII, fig. 1; text-fig. 1.

Remarks: Leaf with form and venation strikingly similar to that of *Semecarpus anacardium* L. of the Indo-Malayan region.

Occurrence: Aquitanian; Manosque.

**Spondiaecarpon** Langeron, 1899, p. 453.**Spondiaecarpon dubium** Langeron.

1899 *Spondiaecarpon dubium* Langeron, p. 453, pl. III, figs. 2, 4.

1900 *Spondiaecarpon dubium* Lang.: Langeron, p. 370.

Remarks: Relationship doubtful. In the opinion of Reid & Chandler (1933, p. 299) the appearance of the fruit is unlike that of *Spondias*.

Occurrence: Eocene; France (Sézanne).

**Spondiaecarpon turbinatum** Menzel.

1913 *Spondiaecarpon turbinatum* Menzel, p. 6, pl. I, figs. 8—18.

Remarks: Accepted as anacardiaceous by Reid & Chandler (1933, p. 299).

Occurrence: Lower Miocene; Germany (Ville, nr. Cologne).

**Spondias** Linnaeus.**Spondias lutea** Linnaeus.

1934 *Spondias lutea* Linn.: Berry, p. 238, pl. XIV, figs. 1—6.

Occurrence: Pleistocene; Cuba.

**Spondias mirifica** Hollick & Berry.

1924 *Spondias mirifica* Hollick & Berry, p. 74, pl. VII, fig. 9.

Occurrence: Mio-Pliocene; Brazil (Bahia).

**[Spondias prae-laurifolia** Krasser.]

1903 *Spondias prae-laurifolia* Krasser, p. 858.

Remarks: Nomen nudum. MS. name of Ettingshausen.

Occurrence: Tertiary; Brazil (Ouriçanga).

**Spondias sheppeyensis** Reid & Chandler.

1933 **Spondias sheppeyensis** Reid & Chandler, p. 305, pl. XIII, figs. 32—34.

Remarks: Endocarp.

Occurrence: Eocene (London Clay); England (Sheppey).

**Spondicarya** Reid & Chandler, 1933, p. 306.**Spondicarya trilocularis** Reid & Chandler.

1933 **Spondicarya trilocularis** Reid & Chandler, p. 306, pl. XIII, figs. 35, 36.

Remarks: Endocarp, referable to the Spondiae.

Occurrence: Eocene (London Clay); England (Sheppey).

**Spondiocarpus** Warburg, 1897, p. 229.**Spondiocarpus verbeekii** Warburg.

1897 **Spondiocarpus verbeekii** Warburg, p. 229, pl. IV, figs. 6—15.

1925 **Spondiocarpus verbeekii** Warb.: Kräusel, p. 336.

1931 „**Spondiocarpus**“ **Verbeekii** Warb.: Posthumus, p. 497.

Remarks: Fruits referred to Anacardiaceae.

Occurrence: Pliocene; Bangka.

**Tapirira** Aublet.**Tapirira lanceolata** Engelhardt.

1895a **Tapirira lanceolata** Engelhardt, p. 15, pl. IX, fig. 4.

1919 **Tapirira lanceolata** Engel.: Berry, p. 291, pl. XV, fig. 1.

1929b **Tapirira lanceolata** Engel.: Berry, pp. 90, 92, 93.

Remarks: Berry (1916, p. 186) considers this to be perhaps an *Engelhardtia*.

Occurrence: Miocene; S. America (Ecuador, Northern Peru).

**Teschia** C. & E. M. Reid, 1915, p. 108.**Teschia crassicarpa** C. & E. M. Reid.

1915 **Teschia crassicarpa** Reid, C. & E. M., p. 108, pl. X, figs. 22a, b.

Remarks: Fruit probably belonging to the section *Rhoideae* and perhaps near *Cotinus*.

Occurrence: Middle Pliocene; Holland (Swalmen).

**Trilobium** Saporta, 1861, p. 148.**Trilobium ungeri** Saporta.

1861 **Trilobium ungeri** Saporta, p. 148.

1862a **Trilobium ungeri** Sap.: Saporta, p. 279, pl. XIII, fig. 6.

1873 **Heterocalyx ungeri** (Sap.) Saporta, p. 111, pl. XVI, figs. 19—26.

1874 **Trilobium Unger** Sap.: Schimper, pp. 282, 704.

1881 **Trilobium Unger** Sap.: Engler, p. 416.

- 1883 *Heterocalyx ungeri* (Sap.): Pilar, p. 116, pl. XV, figs. 12, 13.  
 1888 *Heterocalyx Unger* (Sap.): Ettingshausen, p. 356.  
 1888 *Heterocalyx Unger* (Sap.): Schenk, p. 539, figs. 309<sup>10-12</sup>  
 1899 *Heterocalyx ungeri* (Sap.): Laurent, p. 134, pl. XIV, fig. 6.  
 1906 *Heterocalyx ungeri* (Sap.): Kerner, p. 69.

Remarks: The genus *Trilobium* was instituted for certain supposedly superior fruits with three persistent sepals and a slender stalk. Later, on finding specimens with more than three wings, Saporta substituted the name *Heterocalyx*, but the inappropriateness of the first name is not a sufficient reason for ignoring the rule of priority. Moreover both of Saporta's names would disappear if these fruits were eventually identified with some living genus. Saporta regarded them as belonging to an extinct genus of the Anacardiaceae allied to *Astronium*. Schimper (1874) thought that in spite of this resemblance the affinities of *Trilobium* were uncertain, and Engler (1881), while suggesting a comparison with *Parishia*, listed it as a doubtful member of the Anacardiaceae. More recently Reid & Chandler (1926, p. 138) have suggested that Saporta's fruits may belong to *Abelia* (Caprifoliaceae).

There are numerous records in Tertiary deposits of somewhat similar winged fruits. These have been referred to various genera and families, such as *Getonia* (= *Calycopteris*, Combretaceae), *Porana* (Convolvulaceae), *Tetrapteris* (Malpighiaceae) and *Diospyros* (Ebenaceae). Of these Saporta identified *Getonia petraeaeformis* Unger (1847, pl. XLVII, figs. 1—3) with *Trilobium ungeri*. Incidentally if this identification is correct, Unger's specific name would have priority. Schimper (1872, p. 913) renamed Unger's plant *Porana petraeaeformis* but in 1874 included it as a synonym of *T. ungeri* without referring to his previous action.

Heer (1861, p. 75) and Saporta (1873) consider that the fruits figured as *Elaphrium antiquum* by Unger, (1860, pl. XXI, figs. 17—22) belong to *T. ungeri*, but the figures scarcely suggest identity; in fact, we are unable to detect the slightest resemblance.

In view of the confusion and uncertainty surrounding these fruits, we have only listed those which have actually been named *Trilobium* or *Heterocalyx* (and hence have been referred to the Anacardiaceae). The only really satisfactory identification is of the particularly well-preserved series of four species of *Abelia* from the Oligocene of Bembridge, which have been carefully worked out by Reid & Chandler (1926). Clearly it is impossible (especially in view of the known inaccuracy of many of the earlier figures of plant impressions) to decide on the affinities of the various Tertiary winged fruits under discussion without a re-examination of the actual material, and even then identification may not be possible. At the moment it seems likely that some may belong to *Abelia*, but there is no real evidence that any of them belong to the Anacardiaceae.

See also *Heterocalyx saportana* Berry.

Occurrence: Oligocene and Miocene; France (Aix-en-Provence, Célas), Croatia (Nedelja, Sused), Styria (Leoben), Dalmatia (Ruda).

### **Xylocarya** Reid & Chandler, 1933, p. 311.

#### **Xylocarya trilocularis** Reid & Chandler.

- 1933 *Xylocarya trilocularis* Reid & Chandler, p. 312, pl. XIV, figs. 9—12.

Remarks: Endocarps, referable to the Spondiae.

Occurrence: Eocene (London Clay); England (Sheppey).

## Summary of Genera

Genus	Number of described species	Synonyms, nomina nuda, unnamed and doubtful species
Anacardioxylon	3	1
Anacardites	27	6
Anacardium	3	—
Anaphrenium	2	—
Astronium	1	—
Buchanania	—	1
Carpolithus	—	4
Colombicarpum	1	—
Comocladia	—	1
Cotinus	3	—
Dracontomelon	2	—
Heterocalyx	—	1
Lobaticarpum	1	—
Mangifera	1	1
Metopium	1	1
Odina	3	—
Phyllites	—	9
Pistacia	17	4
Pseudosclerocarya	2	—
Pseudospondias	1	—
Rhodium	3	—
Rhoipites	1	—
Rhoophyllum	2	—
Rhus	126	57
Schinopsis	1	—
Schinus	1	1
Schmaltzia	1	—
Semecarpites	1	—
Spondiaecarpon	2	—
Spondias	2	1
Spondicarya	1	—
Spondiocarpus	1	—
Tapirira	1	—
Teschia	1	—
Trilobium	1	—
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